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THESIS

SWEDEN: NATO'S SILENT PARTNER?

by

James E. Keys, Jr.

December 1984

Thesis Advisor: R. E. Looney

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In 1949 Sweden elected not to join NATO and declared a security policy which remains in effect today: non-alignment in peace, neutrality in war. To conduct this policy, Sweden must have a credible deterrent. In theis context, the defense doctrine is one of "total defense," in which all aspects of Swedish society (military, civilian, economic) are coordinated in a total effort to ensure the survival of the nation. But the doctrine may not be effective without the support of outside

forces, and some Swedish military planners admit that they rely on NATO support within seven days of any outbreak of hostilities with the Warsaw Pact, making Sweden a "trip-wire" for NATO.

This paper examines the Swedish defense doctrine in terms of military force structure, framed in the political debate of the past decade. It discusses the difficulties facing Sweden in regard to modernizing her armed forces, and suggests that Sweden is now, and will continue to be, a silent partner in NATO.

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Sweden: NATO's Silent Partner?

by

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Submitted in partial fulfillment of the
requirements for the degree of

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December 1984

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I. INTRODUCTION AND BACKGROUND

"Even if we consider ourselves to be neutral, we know where we belong."
Torsten Gustafsson
Swedish Minister of Defense

A. BACKGROUND TO SWEDISH DEFENSE POLICY

On 9 August 1914 most of the Russian Baltic fleet steamed out of Helsinki harbor and headed for the island of Gotland in the mid-Baltic. The intention of the fleet's commanding officer was to seek out and attack those units of the Swedish fleet he presumed were assembled in the Faro Channel. He left behind a liaison officer in Helsinki who was to keep in touch with the Russian naval command in St. Petersburg. Halfway to Gotland, the fleet was ordered back for the naval command in St. Petersburg was not sure of the accuracy of reports that Swedish and German war ships were rendezvousing in the Baltic for the purpose of launching an attack on Russian naval units and ports, even though the government strongly suspected that Sweden would relinquish neutrality. And they could not ignore the ambiguous statement made by Swedish Foreign Minister Wallenberg to the British, German and Russian ministers that if Great Britain went to war against Germany, it would be difficult for Sweden to keep out of the conflict on account of anti-Russian sentiments at home.

The Warsaw Pact possesses clear numerical conventional superiority in Europe, and unfortunately for NATO major parts of the Baltic coasts are in the hands of littoral states of the WTO and neutral Sweden. On the one hand this

considerably impedes the operations of NATO forces in the regions, and on the other it benefits the Warsaw Pact in many respects. Any plans by either side must take Sweden into account, if only because of the geographic significance of the country. Sweden's location, providing access to the North Sea and Atlantic through the Baltic approaches, is important to any plans for control of the sea lines of communication so vital to the West. In addition, Sweden's neutrality helps to maintain the balance in the region, countering the position of Finland to the East. But any thoughts by an aggressor that Sweden is a prize simply waiting to be taken need to be re-examined.

Aptly characterized as a "lesser power", Sweden is nevertheless the fourth largest country in Europe. The standard of living is one of the highest in the world, and Sweden possesses an industrial base both modern and full of potential. Swedish technology, particularly in electronics, has for years been synonymous with quality, and defense equipment is up to the same high standards. More important, though, is that Sweden--while not a primary target in the event of any all-out conflict between NATO and the Warsaw Pact--constitutes an important potential transit route for aircraft, ground forces and (most recently) cruise missiles. In addition, the capture and use of Swedish airfields would be an important asset for the Soviet Union, for in the absence of conventional carrier-born aircraft this would considerably extend the USSR's air coverage over the Norwegian Sea and the Baltic. [Ref. 1].

With her size and wealth, it might be assumed that Sweden's defense policy would parallel that of the major powers. And as a capitalistic-oriented country it might be logical to envision Sweden in NATO. But while there is no question that her general orientation is toward the West in security, trade, social, political and psychological terms,

she chooses to remain outside the Alliance. Sweden consciously adopted a position in 1948 to remain a neutral buffer state with an indigenously strong defense capability. This pursuit of the traditional Swedish neutrality remains in existence today.

Sweden's armed neutrality is clear, simple and under certain circumstances fully credible. The country's security objectives are to maintain the nation's independence and its freedom of action while safeguarding the internal development of the country as defined by Sweden alone, while at the same time working for international peace and conciliation.

The neutrality of Sweden is of its own choosing and not the subject of, or result of, international treaties or guarantees. Egil Ulstein, Norway's Ambassador to Czechoslovakia in 1966, has said that "there are certain fundamental principles in the policy of Swedish neutrality which must remain fixed notwithstanding changes in the foreign policy situation. These may be expressed under the following points:

1. Sweden is resolved to refuse steadfastly to yield to pressures and threats from foreign powers;
2. Sweden is resolved to protect her freedom from alliance and safeguard her neutrality from infringements, incidents, and interference from any foreign power that attempts them and whether they occur in peacetime, as an element of a major war or as a prelude to a war undertaking directed against Sweden;
3. Sweden is resolved to protect her freedom and independence against every military attack from any other country;
4. Sweden is resolved to--in so far as opportunities to organize military resistance are not neglected--to protect her people(=the physical survival);

5. Sweden is resolved to sustain, even under the worst imaginable circumstances, the endeavors of her people to realize their feeling of national affinity and cohesion and the democratic social order (=the psychological survival). [Ref. 2].

As a means of achieving these goals, Sweden continues to practice a policy of "nonalignment aiming for neutrality in a future war." The Swedes maintain that this policy contributes to international peace and stability as well as to their own national security. However, in order to play this role as an intermediary peacemaker, the military forces must be strong enough to convince both of the blocs that the cost of any military attack against Sweden will be too high to risk. Directed as it is toward both sides, Sweden nonetheless views the Soviet Union as the major threat.

In spite of the proclaimed policy of neutrality, all preparations for defense have been geared to meet an attack or incursion by Soviet forces. Swedish officers have openly admitted that the only threat which Sweden faces is from the Warsaw Pact, and a typical ground force exercise in March 1982 was conducted to fight off "an invader from the East." [Ref. 3]. Thus, if the Soviet Union decides to attempt to extend its military control to the Northern Flank of NATO, the success of such an operation could not depend on simultaneous moves into North Norway (a relatively weak region) and Sweden.

Sweden becomes strategically significant, though, if the Soviet Union initiates a large scale military operation against the Northern Flank in an attempt to occupy Denmark and Norway, thereby gaining absolute control of the Baltic and Baltic Approaches. In this case, Sweden becomes an important transit area for moving military logistics and supplies from the Soviet Union to Norway. By transporting them by rail or road across Sweden, they would reach Soviet

operational bases in the occupied areas more safely and quickly than by northern or southern sea route. Sweden is well aware of this contingency, and military doctrine is developed accordingly. Swedish Air Force contingency plans call for striking at bridges and other targets in northern Finland [Ref. 3] to slow any Soviet advance there and hamper resupply efforts, should Finland choose not to resist a Soviet move toward Sweden and Norway.

In the past, Sweden often repeated statements that if her fellow Scandinavian countries became engaged in armed conflicts, Sweden would deliberately remain out of the struggle. It was believed that it was important to convince Soviet leaders that Sweden would not under any conceivable circumstances become involved in an armed conflict unless openly and deliberately attacked. The line of reasoning continued that by maintaining a strict neutrality, Sweden could prevent the Soviets from planning any preemptive strike against them as a corollary to any move toward the Atlantic. Accordingly, the Soviets would be forced to advance either to the North or the South.

In light of the Soviet buildup on the Kola peninsula, however, and with the addition of Backfire bombers and more amphibious units to the naval inventory in the Baltic, Sweden has become more skeptical about the Soviets' proclaimed intention to respect Swedish neutrality. The continued sightings of foreign submarines in Swedish waters, and the grounding of a Soviet Whiskey class submarine near Karlskrona in October 1981, have caused the Swedish government to begin a major evaluation of of the credibility of its armed neutrality vis-a-vis the Soviet Union. [Ref. 4].

Surrounded by buffer states, Sweden has until recently been able to maintain a position of non-aligned neutrality and has acted as a balancing power. This role demands a considerable air defense capability. In 1981-2 the Swedish

Air Force consisted of 410 combat aircraft, compared with 479 in the Federal Republic of Germany and 460 in France. Almost half of these were the modern Swedish-built Viggen. The full mobilization strength of the army was 700,000. However, while the costs of equipment have been steadily growing, the traditional Swedish readiness to sacrifice considerable resources to defense has been gradually eroded. In the period 1963-1977 real growth allocation of resources for education was 81%, in the public health sector 114% and in welfare 204%; defense was reduced by 6%. From 1969 to 1980 defense expenditure sank from 4.0% to 3.2% of GNP. [Ref. 5].

In addition, the length of military service for conscripts has been shortened for most categories--from 10 months in 1968 to 7.5 months since 1973, one of the shortest in the world. In 1977 the training period for reserves was reduced by 50%, although the full period is scheduled to be restored at some future date. [Ref. 6].

While the Air Force has been kept up to date and maintains a high level of training, both the Army and the Navy have suffered from economic constraints. Military critics have claimed that the best equipped infantry brigades of today are not much better than the best German divisions of 1940. The number of armored brigades has been reduced from six to four, and even though they are equipped with 330 new Swedish-built medium tanks, they also have 340 old British Centurions which, overhauled, will have to last into the 1990's. There are also shortages of artillery ammunition, serious weaknesses in air defense, and a severe lack of equipment for night fighting. The medical service has also been a victim of economic circumstances.

The Navy has been cut drastically during the last twenty years. By 1982 it was smaller than the Norwegian Navy and of about the same class as the Navy of Denmark, although the

compostion of each is significantly different. When the Soviet submarine ran aground in October 1981, the deficiencies of the Swedish Navy, coastal defense and surveillance system were dramatically revealed. Although Sweden was testing a new anti-submarine torpedo in the area, the intruder, apparently on an intelligence mission, was discovered only accidentally by a fisherman twelve hours after it was on the rocks. The Swedish Navy was reported at the time to be capable of hunting only two hostile submarines at a time. [Ref. 7].

Significant emphasis is placed on minefields along the coast from the Aland Islands to Bornholm, with some minefields in place in peacetime. The extension of territorial waters to twelve miles is thought to give mine defense an additional advantage. However, the exact delimitation of the territorial waters between Sweden and the USSR is in dispute, and the stock of mines is said to be insufficient.

B. INTRODUCTION TO THE CURRENT DEFENSE QUESTION

The five year defense plan voted in 1977 was the first since 1932 to be presented by a non-socialist government, the Social Democrats having been voted out of office in the 1976 election. The 1977 defense debate showed less agreement between the parties than had been the case previously, reflecting an increase in pacifist leaning in the Swedish Social Democratic Party. In this respect the 1972 Party Congress was a watershed, for on that occasion the party voted 174-163 in favor of a proposal by Mrs. Maj-Britt Theorin, the leading spokesperson of the pacifist movement, against the development of a new advanced military aircraft (to replace the **Viggen** in about 1990). The proposal also recommended that attention be paid to "non-military forms of defense". At the following Congress, in 1975, a number of

floor proposals developed themes which were becoming fashionable in pacifist circles in all Nordic countries at the time: reducing military defense in favor of "economic, civil and psychological defense". The real security problem, it was argued, was the poverty of the underdeveloped world, therefore defense appropriations should be transferred to development aid.

In 1976 the Socialists were voted out of office, to some extent because of the radicalization of the Party since 1969, when Olof Palme took over from the moderate Tage Erlander. The Party's opposition role, however, strengthened its trend toward radicalization and pacifism. Through the present period, the debate has come to focus on the question of the next generation of military aircraft, since a final decision in the matter is becoming inescapable. [Ref. 8].

Traditionally, the credibility of Swedish neutrality has been related to the country's ability to produce her own weapons. Even today Sweden is 80% self-sufficient in armament production, but with the soaring costs of high technology, it is becoming more and more difficult for her to maintain this posture. The development of the Viggen for a number of years accounted for about 10% of all Swedish Research and Development funds. On the other hand, the maintenance of a modern aircraft industry will only be possible if the Government decides to develop a new-generation JAS design. (J for Jakt, or fighter; A for Attack; S for Spaning, or reconnaissance). In contrast to the Viggen, which was developed in three different models, the new aircraft should be multi-role and convertible to any of the three functions at short notice, thereby giving the Air Force much greater flexibility.

If Sweden does not decide to build her own aircraft, according to Eric Kronmark, the former Conservative Minister

of Defense, she will probably have to buy the American F-16. Yet even the production of the JAS might be difficult to reconcile with the Swedish concept of neutrality, for in order to make its production economically viable, it would probably be necessary to slacken the severe constraints on arms exports, thus increasing the production run and bringing costs down. A preliminary calculation made in 1981 indicated that a Swedish-built JAS might be twice as expensive as the American alternatives. Arms exports currently account for only about 1% of Sweden's total exports, but according to Bofors--one of Sweden's leading arms producers--this could be expanded considerably, increasing employment in the armaments industry from 40,000 to 47,000. Any liberalization, however, encounters strong opposition not only from the Socialists but also from the youth movements of the Liberal and Centre Parties. [Ref. 9].

Pacifist groups are also arguing that Sweden does not really need a high-technology Air Force at all, since she is not being threatened by anyone, and even if she were, she could not resist the super-power most likely to do the threatening. Defense planners respond to this by stating that Sweden would not have to take on the full strength of a super-power, but only the marginal forces which it could spare for Sweden, and that a modern Air Force is absolutely indispensable for a credible defense for at least two reasons: Sweden's territorial defense is based entirely on mass mobilization and therefore requires maximum warning, which can only be guaranteed through efficient surveillance; and the increasing strategic importance of the Scandinavian area has increased the temptation to violate Swedish air space through the use of technologically improved aircraft, cruise missiles and advanced surveillance systems.

The changing attitudes toward defense which have characterized Sweden since the early 1970's have spilled over to

her NATO neighbors in the West. Several more or less independent chains of causes for this shift can be identified. Most easily recognized are the rising costs of military equipment, which have coincided with a deteriorating economic situation in the wake of the 1974 oil-price escalation. Sweden managed to postpone the impact of the international oil crisis for several years, but then she was badly hit as were all other oil-importing countries. This occured concurrently with the continuing rise of pacifism, which had been growing steadily since the anti-Vietnam War movement began to rise in the late 1960's. Quite strong in Sweden, the movement gradually evolved into a general pacifism in the 1970's, increasing in influence as its members moved into positions of power in the political parties. Ideologically motivated activists found it easier to obtain postions of control, in the Socialist Party in particular, as the rising standard of living weakened the economic motivation of the population in general for participating in party activities. [Ref. 10].

The growing influence of women, another consequence of the trends of the 1960's, strengthened pacifist trends. Within the Swedish Socialist Party the women's organization became particularly active in promoting pacifist views. Politicians like Maj-Britt Theorin and Alva Myrdal became very prominent in the defense debate. Myrdal's work in particular stimulated debate, and she contributed to the campaign for a treaty-based nuclear-free Northern zone with her 1980 proposal for a zone incorporating Sweden and Finland. In Norway the Myrdal proposal encouraged those already engaged in a vigorous campaign promoting a Northern (Scandinavian) nuclear-free zone.

Yet Mrs. Myrdal is not an extreme pacifist. She recommends strengthening Sweden's air defenses, the Air Force and the Navy for surveillance and for defense against the

violations of Swedish neutrality, as well as "balanced defense forces" for Norrland and the Skane coast, and civil defense preparations. She is also in favor of increasing military stockpiles and Swedish self-reliance in general.

Pacifism in the Swedish Socialist Party has been promoted as well by the party's religious wing, the "Movement of Brotherhood." Their position was strengthened by the regional climate of the 1970's with detente culminating in the 1975 CSCE Meeting in Helsinki. In the follow-up conferences in Belgrade and Madrid, Sweden worked closely with Finland to ensure a continuation of the detente policy despite the new tensions created by the Soviet invasion of Afghanistan. The Stockholm-based Swedish International Peace Research Institute (SIPRI) contributed very actively to stimulating interest in disarmament and arms control. In the Swedish context this was sometimes translated into the argument that disarmament begins at home, although the government position that a non-aligned policy demands a strong defense with the main responsibility for disarmament falling on the super-powers. However, the "Whiskey on the rocks" episode of October 1981, followed by the declaration of martial law in Poland--a country very close to the Swedes for historical and geographical reasons--caused a considerable reduction in the rhetoric and influence of the pacifists. [Ref. 6].

Swedish officers have openly admitted that the only threat which Sweden considers real is from the Warsaw Pact. Colonel Lars B. Persson, former Commander of Kallax Air Force Wing in Northern Sweden has stated that it is only a matter of holding out for seven days, after which NATO will have sufficient reinforcements in place to make the outcome of any confrontation with the WTO too uncertain for the Soviets. This comment created considerable debate in the Swedish parliament. Torsten Gustafsson, then Minister of

Defense, assured Parliament that Sweden did not anticipate any cooperation with NATO, but a denial of the statement by Persson and his superior officer, General Bertil Nordstrom, was decried in the press. It was also reported at the time that General Nordstrom himself had said that he thought a one month hold-out period to be more realistic than seven days.

The debate also caused some embarrassment in Finland, for it was here that the Swedish contingency plans for interdiction in Finland were revealed. Swedish experts, however, were optimistic in their evaluation of their capability to resist a Soviet advance towards Northern Norway. They argued that such an advance could not be prepared without ample warning (no "bolt from the blue"), and that the swampy terrain in Northern Sweden would tie Soviet forces to the roads where they would be particularly vulnerable to both the Swedish Air Force and the mobile asset highly specialized Northern brigades. [Ref. 3].

In the eyes of the Soviet Union, the credibility of Swedish neutrality had been weakened, and it was further weakened by American Secretary of Defense Caspar Weinberger's visit to Sweden--the first ever by an American Secretary of Defense--shortly after the Soviet submarine grounding, as well as by Swedish-American negotiations on technical cooperation in defense production.

Nevertheless, the Swedes still voice some concern about the possibility of Western threats to Swedish neutrality, if only in the form of cruise-missiles violating Swedish air space after being fired from the Norwegian Sea enroute the Soviet Union. To this end, the defense planning for the five year period 1982-1987 specifically recommends strengthening anti-cruise missile defenses thorough the procurement of airborne early warning radar systems. [Ref. 11].

In early 1982 the Government decided to begin procurement of the new JAS subject to further considerations, although the calculated price already exceeded the costs of the NATO-built Tornado. A few weeks after the submarine grounding incident, the Navy was given permission for a substantial ship-building program in Swedish naval yards, including four submarines of the A-17 class, claimed to be the most modern of its type, and two missile patrol boats with anti-submarine warfare (ASW) capability. With specific reference to the U-137 submarine incident, the Government proposed in its 1982-87 Defense Plan a 200 million kroner increase in the ASW budget. There was a serious unemployment problem in Swedish shipyards at the time, and the Government had decided previously on a substantial building program, but the time-table for the program was moved up as a result of the incident.

The increases in the Navy budget will have some effect on the Army in the form of reductions in its peace-time organization. To prove that it is still a force to be reckoned with, the Swedish Army in March 1982 conducted an exercise involving 23,000 men in the north, the largest such war-game since the Second World War. It was designed as a signal that Sweden was well aware of the growing strategic importance of the northern region, a consideration highlighted by the ever-increasing Soviet military buildup on the Kola Peninsula. [Ref. 1].

Over the years, and particularly during the first Palme period, it had become common for Western military authorities to downplay the ability of the Swedish military and the importance of the role it plays in NATO's plans. Even so, Sweden has provided yeoman service for western defense by providing political and military balance in the North that has greatly benefited NATO--much more so than if Sweden had been a member of the Alliance. Without the Swedish

contribution, NATO would have had to shift large forces, particularly air, for Norwegian and Danish defense from an already difficult military balance on the Central Front. While there were indications in the 1970's that this period of Swedish "assistance" was coming to an end under Palme, the conservative Center Party (Centerpartiet, the former Agrarian Party) government under Thorbjorn Falldin which replaced Palme began to attempt to counter this trend, even in the face of serious economic difficulty. This policy has been continued into the 1980's, even under Palme's new government which returned to office in 1982.

That Sweden will maintain her armed neutrality is not the issue. The key question is whether Sweden can continue to afford a military, and build a strategy around, a competent high-technology air and naval force, or whether she will have to shift to a cheaper, less capable one. The high-technology option gives Sweden a politically visible presence and force projection capability which is mandatory for maintaining the present balance in the Scandinavian region. The lesser-capability option means that Sweden will only be able to defend her own territory, not the Baltic at large. The first option, although tacitly drawing on the assumed guarantees of NATO assistance in time of crisis, gives weight to Swedish concerns and desires while making Sweden a genuine contributor to Nordic and global security. The second option places Sweden in a vacuum, forced to draw exclusively on the security guarantees of potentially hostile neighbors.

II. SWEDISH DEFENSE POLICY: THE ARMY

A. EVALUATING THE THREAT

Recognizing that the primary (only) threat of invasion comes from the Soviet Union, Swedish Defense policy has been developed as a total defense concept, one which reflects the ability of Sweden to mobilize an armed force of 700,000 men in less than 96 hours. The defense plan is divided into three phases, each of which represents a deteriorating strategic condition:

1. Phase 1: A "shell defense", using the well-equipped, high readiness units of the Air Force and Navy to meet and stop enemy invasion forces while they are in transit across the Baltic.
2. Phase II: A defense condition which comes into use should an invasion force actually reach the Swedish coast. It calls for the use of the Phase 1 units and the coastal artillery (under Navy command). and the most rapidly mobilizeable Army units. Important here is ability of the local defense forces to be operational 6-12 hours after call-up and field army "rapid battalions" within 24 hours.
3. Phase III: The defense in depth of Swedish territory if the enemy has gained a beachhead. In this case, the units used in the first two phases are regrouped and combined with the fully mobilized ground forces. These begin to become operational in battalion strength 2-3 days after call-up, and in division strength after 4. Phase III is designed to delay the enemy, cut him off from his supplies, extend his lines of communication, weaken him, and finally

destroy him. The geography of Sweden is tailor-made for this kind of plan, should it be necessary. [Ref. 1].

The Soviets have often made claims that Sweden is a partner in the NATO alliance, although this charge has never been substantiated. It is important to realize, however, that Sweden has provided yeoman service to the Western defense for years by providing political and military balance on the Northern flank that has greatly benefited NATO, more so than if Sweden were a member of the Alliance. Without this contribution, NATO would be forced to shift large forces, particularly air, for protection on the Northern flank, an area already shown to be severely threatened by Warsaw Pact forces. Beyond this indirect service, Sweden's military intelligence organization is known to cooperate with NATO; in a joint operation designed to eavesdrop on the Soviets, Sweden and the Alliance used a listening post built on the island of Lovoel, near Stockholm in 1982. [Ref. 12].

Swedish military doctrine is similar to that of NATO in analyzing the threat, but while both Sweden and the Alliance view the primary threat as coming from the east, Sweden's attitude is somewhat different. The NATO view is that a Soviet thrust from the Baltic across Sweden to reach Norway is a real possibility. Sweden believes such an assault is not very probable and that it is more likely that an attack would be be launched along the southern coast of the Baltic to seize Denmark and thus open up the Narrows, isolating both Sweden and Norway. It is important to note that the Swedish view holds such an attack as coming simultaneously with a WTO assault on the Central Front.

An isolated national defense effort appears to be out as a viable alternative for two reasons: either Sweden is counting on Western assistance to counter any Soviet move,

or else Sweden does not consider the Soviet threat to be serious. The first case means that Sweden has based her military organization on the assumption that the Soviet Union would initiate hostilities, and if so Sweden will meet any advance with her own indigenous forces. The official line is that the "total defense" concept will allow Sweden to meet an assault without giving up too much territory. But the Swedes also know that if no one comes to their aid, the struggle would almost certainly end the same way as the Russo-Finnish Winter War of 1940, with massive destruction and eventual defeat with far-reaching ramifications.

On the other hand, if there is a reasonable chance of getting assistance from NATO and the U.S., Sweden's position becomes no worse than that of Denmark or Norway. In fact, with her higher level of military preparedness, Sweden might actually be better off than these two NATO members: able to meet any attack with national forces, do what is possible with available assets, and hope that allied assistance arrives before too much territory is lost or destroyed. In this regard, Sweden benefits from the NATO membership of Norway and Denmark, for they indirectly contribute to Swedish security by sheltering most of Sweden's land borders, saving her from the significant expense of keeping up a neutrality guard to the West, thereby allowing her to concentrate her attention on the Baltic. [Ref. 13].

Traditionally, Swedish defense has been oriented against an invasion from the sea and only secondarily from an invasion by land in the far north. The present focus is on an aggressor's move from the East, primarily across the Baltic and secondarily across Finland. Sweden has decided to strengthen her forces in Norrland, but the essential question remains: how will she do it? It is important to emphasize, however, that this strengthening is to be done for political, not military, reasons. As Sweden views the

present situation, Soviet forces on the Kola Peninsula pose no real threat by land. They are too small and not specialized enough to fight across Swedish Norrland.

The Soviet Union could provide reinforcements, but these would be even less specialized for the weather and terrain, lacking the proper hardware for cross-country light-flotation or over-snow operations. Accordingly, the Swedes do not fear this threat. In addition, the Scandinavian road network is not conducive to a surprise attack by land against Norway. An attack using only Northern Finland (the Finnish Wedge) can only be supported by one road along exceptionally difficult terrain. An attack through Sweden provides more roads and the possibility of outflanking the main Norwegian forces located near Tromso, but it also means engaging Swedish forces and the added difficulty of crossing numerous rivers. [Ref. 14].

The main Swedish fortifications are still oriented toward an advance down the coast in the direction of Stockholm. This approach has never been tactically sound and in today's environment it is strategically unlikely. If the Soviet Union were to launch a pre-emptive strike through Sweden in order to protect the Kola bases, it would be directed at enveloping the Tromso area and the NATO forces there, not neutralizing the non-Alliance Swedes. [Ref. 15].

B. GROUND FORCE STRUCTURE

Swedish defense is based around four Norrland brigades, organized as regular infantry brigades but with special equipment and training for Norrland. Air Force interdiction and fixed, heavy gun emplacements are to provide time for the mobilization and deployment of the Norrland brigades and subsequently for the brigades in central Sweden that might be ordered north as reinforcements. In the Swedish view, as

long as a Finnish buffer exists between her and the USSR, there is no need for high-cost readiness or rapid reinforcement measures.

As is always the Swedish case, the Air Force first provides time for the other forces to mobilize and react to an aggressor's moves, followed by fixed obstacles and fortifications. The Air Force is in-being, the mines are partially in place, and the fortifications can be manned in a matter of hours by the local population. The Norrland brigades themselves can similarly be brought up to half-strength in twelve hours by local mobilization. The remaining officers and NCO's are air-lifted and the troops transported by ground to numerous small depots (which are characteristic of Swedish mobilization in general) in Norrland. After initial mobilization, reinforcements could only arrive after a long march with full equipment from central Sweden.

It should be noted that the four Norrland brigades plus associated forces amount to almost as sizeable a force as the Soviets currently deploy in the North, as well as being specialized for the mission at hand. If the USSR were to deploy more forces, her efficiency--given known orders-of-battle and tables of organization and equipment--would be low. Moreover, the Swedes consider it highly unlikely that the Soviet Union would deploy more troops into the area except under provocation. In conjunction with a Soviet main attack against NATO, a secondary attack in Norrland would seriously dissipate Soviet resources. On the other hand, an attack in the North alone could be embarrassing, since the USSR could not use mass to offset qualitative deficiencies in this region. A faltering attack could seriously weaken Soviet prestige at a critical point, providing her opponents with the necessary evidence to strengthen their resolve. [Ref. 5].

The defense of North Sweden begins with the Air Force. One Viggen fighter squadron is located at Lulea, and more can be allocated to the many stand-by bases in the area (developed after World War II when Sweden had the second largest air force in Europe). However, the role of the Viggen is primarily air defense and then reconnaissance. Very few Viggem sorties would be allocated to ground attack, and these probably only under special circumstances. Sweden now only has 5.5 squadrons of attack-variant Viggens and these are directed toward maritime defense. Instead, the main brunt of ground support is to be born by the five light attack squadrons (SK-60) in an interdiction role. It should also be noted that the SK-60 is increasingly being re-oriented from ground support to anti- helicopter defense, since Sweden now recognizes that troop-carrying helicopters add a new dimension to ground warfare, particularly in the special conditions of the Far North. [Ref. 16].

Obstacles and fixed fortifications form the next line of resistance. These have been placed in belts, paralleling the drainage lines on the coastal route to Stockholm. The concept was that the belts would block any advance while the Norrland units would counter-attack the extended flanks of an attacker (a tactic borrowed from the Finns). While the fortifications are still manned (the fixed costs have long since been accounted for, and mobilization manpower is cheap), this concept has largely been overtaken by events. Sweden now recognizes that belts are too easily penetrated on the ground and too easily enveloped from the air by helicopter. But most important, the fortifications have lost their strategic value. Soviet thrusts would be toward the West and Norway, not toward the South and Stockholm.

In order to adjust to this new strategic environment, Sweden is shifting to British killing-zone tactics for the beginning of any conflict and Finnish defense-in-depth

tactics thereafter. This means that if her forces are relatively strong against an attacker, Swedish territory will be defended directly and the tactic will be to envelop the lead elements in killing zones. It is believed that the marshy terrain, bounded by many lakes and streams, will channel the enemy along a sparse road network which allows few opportunities for by-passing resistance. Thus a tank-oriented attacker from the East will be easily trapped and destroyed by firepower from the existing fixed fortifications. [Ref. 17].

Only one-sixth of the Swedish tank inventory is allocated to the North. Their initial use is defense against airborne attack, after which they will be used to ring the killing-zones. The turretless S-tank is designed as a tank-destroyer, not as a conventional Main Battle Tank (MBT).

If an attacker is able to proceed beyond the border area, tactics will become more like those developed by the Finns during the Russo-Finnish War of 1940. In this case, if it appears the attacker is relatively strong, Swedish forces would be dispersed and relatively little heavy fire power would remain available for employment. On the other hand, attacking forces would become increasingly over-extended and vulnerable to flanking attacks--initially as pinpricks against soft elements and later by an annihilating counter-stroke with concentrated force elements. The tactics are well suited to the forested and climatically hostile terrain of Swedish territory.

While the defense of North Sweden has received disproportionate attention because of its proximity to Kola, the key to Swedish defense is far to the south. Thirty percent of the Army and three of the four armored brigades are located in Skane on the southern tip (Military Command South), which makes up only 11 percent of the country and contains 23 percent of the population. The area is close to

the Continent, lies along the strategic Baltic Straits, and lacks the heavy obstacles characteristic of Sweden as a whole. In the area closest to, and most likely to be invaded from, the Continent, excellent beaches for amphibious landing exist and the terrain just inland from them comprises one of the few areas in Sweden truly suited to armored warfare. [Ref. 4].

The primary tasks of Military Command South are containing and destroying air and sea landings. Though not officially admitted by the Army, apparently because of interservice rivalry, an air landing is not feasible in the face of Swedish air defenses, which would be difficult to overcome due to range limitations of Soviet-designed fighter aircraft. Thus an air landing must rely on small forces and surprise; waiting until Swedish air defenses were worn down would not work because airborne drops would then become vulnerable to mobilized ground opposition and potential NATO reinforcement.

C. THE ARMY'S DEFENSIVE STRATEGY

The Army's main mission is defense of the coastline in conjunction with the Navy's coast artillery units. While the coast artillery concentrates on moving ship targets, the Army provides static defense of the beaches and ports and armored counter-attacks against any foothold achieved by the enemy. Characteristic of Swedish tactics is that the armor counter-attack means movement into position and attack by fire. As in the British killing-zone concept, terrain is recaptured and original positions restored only after the enemy has been decimated by fire. Military Command South's commitment is to counter-attack against dug-in enemy forces.

According to the old concept, the Army was to execute a mobile defense, eventually destroying the invader advancing

northward through the open country of southern Sweden. The killing-zone tactics, while not as fluid and effective as the high-tempo tactics of the Germans, were consistent with the S-tank and degree of training of the Swedish Army. A mobilization army cannot readily execute German-style armored tactics, but the extensive forests of Sweden serve as a substitute for the individual training and discipline normally needed for the British style of fighting. In the new TR-80 tactical concept the armor will continue its role of mobile defense and will be complemented by light infantry using the extensive forests of the interior to mask any movement, and to facilitate repetitive hit-and-run (Jager) infantry attacks against the invader's flanks. However, unlike the German concept of a counter-attack to annihilate an over-extended attacker, the Swedish Army subscribes to the idea of making an invader's costs greater than potential benefits, and ironically of playing for time in order to draw NATO attention and pressure to tne region in order to cause the aggressor to withdraw. [Ref. 5].

A final characteristic of Swedish tactics is that only the Field Army proper moves throughout the country. Territorial units--Home Guard and local defense companies and battalions--defend regionally or in place and do not withdraw with the Field Army. Coastal areas in general and ports in particular thereby continue to be defended by local units even if the Field Army withdraws. In this strategy, ports play a key role; as long as the enemy is unable to seize coastal ports, his force cannot be sustained and reinforced, thereby preventing him from mounting a major offensive. In the Baltic, the sea is shallow and often becomes too choppy to support amphibious landings across the beach. In addition, beach landings are particularly vulnerable to naval attack. Senior Swedish naval officers calculate that from November to March, the overcast is such that naval units can attack without the benefit of air cover.

With present budgets, Sweden can no longer retain both an army structure capable of defending the country alone after mobilization, and high technology air and naval services capable of preventing all but small-scale air and sea landings. Unfortunately, the defense debate in Sweden has become either/or. The Army, in an effort to increase its own share of a decreasing modernization and operating budget, has framed the debate in terms of territorial defense. But such an army cannot mobilize without the warning and covering time provided by the air and naval services. Nor could the Air Force and Navy be sustained in their current form over the long term without the continuation of universal conscription, whose product only the Army is large enough to absorb. The Army publicly conjures an image of a populist territorial defense, while in reality pursuing the substantive program of a costly field army, replete with the latest tanks, armored infantry carriers, air defense and other trappings of modern armies everywhere. [Ref. 18].

A true territorial defense does not require the program and costs of a field army. While there are different forms of territorial defense (the Yugoslav and Romanian examples come to mind), all are based on the concept of occupying space with large numbers of lightly armed, locally mobilized citizenry. The differentiating element is the role and size of the central reserve, usually armor. The main body does not require complex and expensive equipment, nor is lengthy training required for conscripts. The forested Swedish countryside is a natural mask for hit-and-run raids, except in the area of Skane. Airborne landings are always vulnerable to any form of organized resistance, while amphibious landings are only a serious threat in Skane, since few good beaches exist outside the region. Any landings that do occur are likely to be cut off from reinforcement by the Air

Force and Navy. In the Swedish case for territorial defense the expensive armored reserve requirement is not large, and it is already in being. Since the Swedish tactic is counter-attack by fire, no large-scale sweeps with large elements are needed. For this style, a tank destroyer rather than a true tank is required; the S-tank should suffice for many years. Nor is a sophisticated armored infantry fighting vehicle required, for what is needed is a form of armored taxi. In short, for true territorial defense, the Swedish Army is already amply equipped and may have to give up some of its heavy equipment.

The leadership of the Swedish Army has advocated territorial defense, but it has done so with another intention in mind. Still, territorial defense <u>for the Army</u> makes good sense. It would, in essence, only remove a redundancy in the present Swedish defense scheme, allowing modernization, operating and conscription time-in-service funding to be shifted from the Army to the air and naval forces. In this way, Sweden could continue her present highly advantageous strategy of projection in the region, while losing only a field army capability--which she does not need based on her current tactics. Its loss would not appreciably affect Swedish defense capability, since in many ways it is nothing more than a hold-over from an earlier period.

In purely military terms for the defense of Sweden herself, a fully-funded army-based strategy may be more effective than the present air and naval defense strategies, but would not necessarily be cheaper for there could be hidden costs (such as reduction in research and development of high-technology areas for future industrial growth). And there would be the unavoidable burden of accepting combat in, and occupation of, Swedish territory. More important for Sweden, however, are the strategic and political aspects of the choice. The Army, while improving its tactics and

technical proficiency, is proceeding in a strategic political-military void. Its new tactics are demanding and impressive, but they are being advocated in an overall environment of reduced warning and post-mobilization shake-down time as a result of the reduction in size of both the Air Force and Navy. Even more important, the Army's strategy, developed as it is from a recognition of greater Soviet capabilities, implies an ultimate and inevitable reliance on NATO. Further reliance on the Army, at the expense of the other services, means a shift toward dependence on others should deterrence fail.

III. SWEDISH DEFENSE POLICY: THE NAVY AND AIR FORCE

A. THE CONCEPT OF NAVAL DEFENSE

In the overall scheme of Swedish defense, the Air Force assumes the first line, the Navy the coastal line, and the Army the defense of the coast and the interior. In the present policy, it is the small (in personnel) but equipment-sufficient air and naval services that are critical. Sweden fully expects any invasion to be stopped at sea, therefore the Army is seen as insurance should an enemy succeed in lodging a force in Sweden proper. In this scheme it is not the role of the Air Force and Navy to sink or destroy the opposing force. Instead they have the less demanding task of aborting any invasion.

According to Sweden, any war will be short, thereby precluding repair of battle-damaged equipment. As a result she will be faced with secondary forces not required elsewhere. For this reason, in a major departure from normal military practice and policy, the Swedish military sees its role as the incapacitation rather than the destruction of enemy forces. In doing so, the defense problem has been greatly simplified.

Swedish defense is centered around the timely emplacement and protection of elaborate minefields. Once the minefields are in place (many are simply activated), the country is effectively shielded and Army mobilization and deployment is secured. Attack submarines and Viggens help attain the time for mine emplacement, and it is important to note that the small-boat navy and coastal artillery (organic to the Navy) orient themselves around the minefields. [Ref. 5].

In the Swedish plan, enemy warships are not the prime targets. Rather the two primary targets are relatively soft: the specialized mine-clearing ship and the troop transport. Enemy warships are to be avoided, but if attacked the aim is to disable the ship by attacking the bridge and superstructure areas. This accomplishes the mission while reducing the size of the weapon required, in effect indirectly enhancing the attack vehicle's payload. At the same time, even a reduced-warhead weapon can sink the primary mine-clearing and troop-carrying ships.

While the **Viggen** is the glamorous arm of Swedish defense, the workhorse is the small boat navy sheltered along the coast. These boats force the enemy naval escorts into forward positions to protect their mine-clearing efforts. But in doing so, unless a large fleet is present, the remaining invasion force is uncovered, thus providing a less defended target for the Viggens and an opportunity for a quick strike by other boats masked by the coastal islands and awaiting a suitable opportunity.

This mutually reinforcing air and naval scheme effectively protects the island-dotted coast from the Aland Islands to Karlskrona and the west coast of Goteborg. The open west coast along the Kattegat at this time is not a major threat area (Sweden in this case relies on NATO to provide adequate protection), while the coastline of the Gulf of Bothnia is normally protected by closing off the Gulf at the Alands by minefields [Ref. 15].

According to Admiral Rudberg, the primary problem for the Swedish Defence Forces, particularly the Navy, is providing adequate surveillance along the coast, a problem compounded by the extension of territorial waters from 3 nautical miles to 12 [Ref. 19]. The length of Sweden's coastline on the Baltic is 1601 kilometers (960 miles), and in the west, from Skane to the Norwegian border, 400

kilometers (240 miles). Not only is this a long coastline for a small force to cover, but geographically it is a difficult one to guard, for over much of its length it is in the form of an archipelago with hundreds of islands. The water varies in depth from a few meters to over 60 meters in some places. Furthermore, the factors affecting sound propagation in water and a sea-bed of varying conditions create an extremely difficult situation for effective anti-submarine warfare (ASW) operations. However, through careful planning, this has been turned to Sweden's advantage to create a defense in depth. But if the defenses are breached or covert intruders escape initial detection as as happened in four major incidents in the last three years [Ref. 20], then there are inumerable places in which small hostile forces can hide or through which they can effect escape.

The Swedish Naval Forces comprise two arms--the Navy and the Coast Artillery--which conduct operations in close cooperation. The Navy provides four major elements in the maritime defense strategy (light surface units, underwater units, mine warfare units, and the naval air arm) while the Coast Artillery provides both fixed and mobile units (See Table I). With the emphasis on coastal operations within the 12 nautical mile limit and bearing in mind the type of natural environment in which the naval forces must operate, and with the existing economic situation and escalating cost of procuring military equipment, the Navy has been reorganized around the powerful light coastal forces. This shift away from larger forces of the cruiser and destroyer classes occurred over the past decade, with the last cruiser being retired in 1974 and the last destroyer being stricken in 1983 [Ref. 21]. The one element which the Navy has not reduced is the submarine force, a force which continues to be an essential element in Swedish defense strategy.

TABLE I

Swedish Naval Forces December 1983

Type	Class	In Service	Ordered	Planned	Total
SS	Draken	4	--	--	4
	Sjoormen	5	--	--	5
	Nacken	3	--	--	3
	Vaster-gotland	--	4	--	4
					16
FAC	Spica	6	--	--	6
	Norrkopping	12	--	--	12
	Hugin	17	--	--	17
	Stockholm	--	--	--	2
	Goteborg	--	--	6	6
					44
PC	SKV1	5	--	--	5
	Hano	4	--	--	4
	Skanor	4	4	--	8
	V57	1	--	--	1
	61	17	--	--	7
					35
ML	Alvsborg	2	--	--	2
	Carlskrona	1	--	--	1
	Thule	1	--	--	1
	MUL 12	8	--	--	8
	MUL 11	1	--	--	1
	501	36	--	--	36
					49
MCMV	Hisingen	7	--	--	7
	Gassten	3	--	--	3
	Arko	12	--	--	12
	Landsort	--	2	6	8
	SAM	--	5	10	15
					45
Amphibious/ Transports	---	144	8	8	152
Auxiliaries/ Misc	---	62	1	--	63
					405
Coast Artillery Units					60

Swedish maritime defense strategy is based on the Government's requirement of preventing an aggressor invading

by sea from establishing himself on Swedish territory. To this end the Swedish defensive system is designed to come into operation as far from the Swedish coast as possible, and is based on a series of strategic "barriers" or defensive lines. The outermost line consists of attack aircraft of the Swedish Air Force and submarines of the Navy.

As mentioned earlier, one of the primary objectives of the Swedish Air Force is to delay an approaching invasion force as long as possible in order to gain time for mobilization and for the other defense forces to position themselves as the situation demands. Although the unofficial comments regarding Sweden holding out for seven days and then being supported by NATO were decried publicly, current thinking within the military seems to anticipate that at the most the Air Force would have to hold off a determined onslaught for two weeks at the most [Ref. 22] ---by which time it will probably have ceased to exist as a unified fighting force, considering the projected intensity of any future conflict.

Submarines in the outer barrier are normally armed with wire-guided torpedoes, but they are also able to lay mines, either in the face of an advancing attack or in waters in proximity to the mainland to prevent an amphibious attack. These highly sophisticated boats, designed for operations in the difficult conditions of the Baltic, are capable of remaining in any combat zone for periods in excess of 30 days.

The second line of defense is based on the light forces--the flotillas of Spica and Hugin- class Fast Attack Craft (FAC'S), armed with missiles, guns and torpedoes and fully capable of laying mines if assigned this task. The flexible nature of these light craft, and their relatively simple logistics requirements, means that they can be moved from base to base around the Swedish coastline, or they can

be operated from inlets and bays within the fjords without major organizational support. They can also be rapidly deployed to different areas, depending on how the threat develops.

Closer to the coastline is the third line of defense, the minesweeping units needed to keep shipping lanes and ports clear, and the ASW units principally assigned to work with the two shore-based helicopter squadrons operated by the Navy.

The final defense barrier consists of the stationary and mobile batteries and permanent inshore minefields of the Coast Artillery. These units are assigned to areas of strategic importance with the guns heavily protected. Stationary batteries are heavily armored and have deep underground shafts providing crew shelter and accommodation, as well as ammunition storage sufficiently secure to withstand a near miss from nuclear warhead [Ref. 20]. The mobile units provide a flexible back-up which can be rapidly deployed to meet a developing threat and to create a reserve in possible invasion areas. The minefields are remotely controlled from shore bases manned by the Coast Artillery.

All these units are supported by well-equipped and protected bases spread around the coast. They are capable of providing full support for the replenishment and repair of unit, and in the case of some of the larger bases have shipyard and shelter facilities deep underground which have been blasted out of rock. These facilities, however, are not projected to see much utilization, as the intensity and duration of any conflict will most likely preclude their use.

B. SURFACE UNITS

The Swedish Navy today consists almost entirely of FAC's, patrol craft and submarines (see Table I). Sweden's last cruiser, the Gota Lejon ("Lion of Goth"), was built in 1945 and was the first cruiser in the world armed with fully automatic six-inch guns. Modernized in 1964, she was sold to Chile in 1972 at the time the current defense policy was being formulated. [Ref. 21] The last operational destroyer, the Halland, which completed a world training cruise in late 1982, was laid up in 1983, and future training will be conducted aboard the newly commissioned minelayer Carlskrona. The main strength of the surface attack force is based on the Spica -class FAC's (See Table II). These

TABLE II

FAC Classes

Data	SPICA	Norrkopping	Hugin	Stockholm
displ. (DWT)	190	190	120	320
speed (kts)	40	40	35	30
arms.	1x57mm Cannon; 6x533mm Torpedo	1x57mm Cannon; 6x533mm Torpedo to be replaced by 1x57mm; 8xRBS15 SSM & 2x533mm Torpedo	1x57mm Cannon; 6xPenguin Mk2 SSM	1x57mm Cannon; 8xRBS 15 SSM; 2x533mm Torpedo
compl.	28	27	22	31

boats are armed with a Bofors SAK 57mm gun and six torpedo tubes designed to fire to the Swedish type-61 torpedo. With

only minor modification they can be adapted to the mine-laying role.

Sweden's fast attack flotillas are currently undergoing major modernization and a modest program of expansion. While the quality of the weapons systems and other equipment of the Navy is good, they are not available in sufficient numbers. If Sweden is to gain the maximum advantage from the new weapons systems and electronics now under development, then more hulls must be made available on which to mount the equipment and allow the Navy the flexibility it needs to counter a sudden threat developing from an unexpected quarter, or simultaneous threats from various directions. [Ref. 23].

The Social Democratic Government, with the support of the other main parties (Liberal, Centre and two minority parties) is determined to implement the modernization and missile-arming of the 12 Norrkopping -class FAC's while the six boats of the Spica -class will be phased out of service by 1990 without being modernized.

The modernization of the Norrkopping -class is being carried out by the Karlskronavarvet yard, an area which has increasingly become the subject of covert intrusions by foreign submarines in recent years. This modernization involves completely refitting all the fire control and combat information center (CIC) equipment, mounting four twin-box launchers for the new Saab-Bofors RBS 15 anti-ship missile in place of the after four torpedo tubes (the new forward tubes will be retained), mounting the new Ericsson SEA GIRAFFE radar and a new advanced electronic countermeasure (ECM) unit, the Saab-Sciana EWS 905. In addition, the boats will each receive a new air-intercept system for tracking hostile aircraft and missiles. Although these modernized boats will provide the Swedish Navy with a significant increase in fire-power, there are no current

plans to update the gun system with the same 57mm gun on the Spica -class boats [Ref. 23]. The Swedes may be forced to look back ruefully at having had the opportunity to give the Norrkoppings a completely new lease on life and having thrown it away. At any rate, the modernization program is scheduled for completion in late 1985.

In June 1982, the Navy placed orders with Karlskronavarvet for the first two FAC's of the new Stockholm -class. This new generation of boats will differ in a number of ways from the existing Spica -types, the most notable difference being a significant ASW capability. Following the numerous incidents involving foreign submarines entering Swedish territorial waters, particularly the famous U-137 incident of October 1981 and the detection of a submarine in the naval base area of Musko in October 1982, urgent steps are being taken to improve Swedish ASW capability. ASW equipment will be manufactured in Sweden under foreign licenses from Canada and France, including a variable-depth sonar (VDS). Armament of the Stockholm- class will include the Bofors SAK 57mm Mk 2 gun, eight RBS 15 surface-to-surface missiles, and two torpedo tubes carrying wire-guided torpedoes. A 40mm gun will be mounted aft, and electronics will include the SEA GIRAFFE radar, fire-control and air-intercept radars, and a Swedish designed and built communications system.

Propulsion for these craft will be provided by both diesel and gas-turbine systems, although the systems chosen will only give the boats a maximum speed of 30 knots as opposed to the 40 knots of the Norrkopping -class. This reduction in speed, which results in lower fuel consumption, reduced maintenance, and longer engine life is considered to be acceptable because of the range (in excess of 60 miles) of the RBS 15 missile, its effectiveness in a heavy electronics warfare environment (projected for the Baltic in any

conflict), and the extended range of the 57mm gun with the latest modifications in available ammunition.

Only two boats of the Stockholm- class have been ordered. It has not been decided by the Ministry of Defence whether the boats will be built as a series or not. Some doubt exists because of the proposal for a new boat, the Missile Boat 90 (to be known as the Gothenburg- class). The design for the class has not been confirmed, although it could possibly be the same as the Stockholms (a series), slightly larger, or it could be a completely new design. The choice will hinge on the decision concerning the Navy's future ASW capability, [Ref. 24], for it seems to be a waste of a Fast Attack Craft's best assets to assign it to an ASW role, for ASW demands capabilities contrary to those around which the FAC is developed (i.e. its high speed and heavy anti-surface vessel fire power).

Finally in the surface unit field Karlskronavarvet is modernizing the eight coastal patrol craft of the V01-class. The hulls of these old gasoline-engine torpedo boats were surveyed and found to be in good condition and as a result the decision was made to keep them in the naval inventory for economic reasons, assigning them as patrol craft in the archipelago region.

C. SUBSURFACE UNITS

One of the most vital elements of the Royal Swedish Navy is that provided by the submarine service, and in the foreseeable future there is no possibility of their being withdrawn from service. Swedish submarine technology is considered to be some of the best in the world, and the Swedish-built boats are specifically designed to operate in the conditions prevailing in the Baltic Sea (See Table III).

TABLE III

Swedish Submarine Classes

Data	Draken	Sjoormen	Nacken	Vastergotland
displ. surf/subm (DWT)	770/1110	1125/1400	1050/1125	1070/1200
speed surf/subm (kts)	17/20	15/20	20/20	unk
arms.	4x533mm Torpedo	4x533mm Torpedo; 2x400mm Torpedo	6x533mm Torpedo; 2x400mm Torpedo	6x533mm Torpedo
compl.	36	18	19	19

The latest boats to enter service are three submarines of the Nacken -class, commissioned between 1979 and 1981. These three are among the most modern and sophisticated diesel-electric boats in the world. With a highly automated computer system designed to provide tactical data and data on the two main propulsion systems, the Nackens operate with significantly reduced manpower--5 officers and 14 ratings. Improved construction methods, combined with an optimum hydrodynamic shape, has resulted in a reduction in size to 980 tons.

The main armament is the torpedo, but unlike most other submarines, two different types are carried. Six standard tubes are built into the bow, each of which carries and fires the FFV type-61 torpedo. In addition, there are two smaller tubes in the bow designed to use the FFV type-42 torpedo. By carrying different torpedo loads the submarines can vary attack procedures and weapon response depending on the type of target and whether it is a surface or

sub-surface target. As an alternative to the type-61 torpedoes, the boats can also carry mines. It is worth noting that in this configuration, with their two distinct torpedo systems, the submarines can carry the maximum number of mines and at the same time still remain capable of self-defense or conducting torpedo attacks as the occasion demands.

The **Nackens** are highly maneuverable with six control surfaces. Two depth control hydroplanes are mounted on the sail as in nuclear-powered submarines, while depth and lateral attitude are further controlled from after planes set in a unique "X" configuration. Such a configuration was first adopted in the **Sjoormen-** class to enable the boats to rest more easily on the sea-bed, without fear of rolling over or damaging the hydroplanes as might be the case if they were set in the more traditional vertical-horizontal position. [Ref. 19].

At the beginning of 1982 the Royal Swedish Navy placed an order with the Kockums firm for a new class of submarine. Referred to as the A17, these four submarines will be known as the **Vastergotland-** class. They are due to be delivered between early 1987 and the end of 1989. Work on the boats will be divided between the Kockums yard and Karlskronavarvet, the latter yard building the bow and stern sections of the boats which will then be transported to Kockums where they will be welded on to the middle section. The same construction technique will be used as in the **Nacken-** class, each of the sections being almost completely fitted out before they are welded together. This system of construction, together with the placing of the fully completed boat in the water by the largest cranes at Kockums, will result in considerable cost reduction, as it did with the **Nackens**, while at the same time providing more job security for the workers in two of Sweden's most important naval repair facilities.

The design of the A17 is based on the experience gained with the Nacken- class. As a result the A17 will provide more internal space for the crew than in the previous class while at the same time achieving improved performance and generally proving more efficient. The major aim has been to reduce the manning requirements to an absolute minimum. This has been accomplished and the A17 design has probably reached the ultimate limit in manpower requirements with regard to safety. This reduction is being achieved, as in the Nackens, by using a Saab-Scania 1-man console for controlling the submarine's movement: steering, alterations in depth-keeping, engine rpm alterations, tank trimming, etc. The total control system is fully automated, the A17 being a follow-on to the use of microcomputers and modern electronics in the Nacken- class boats.

Underwater performance has been improved by using a different battery configuration to improve the energy capacity. The hydrodynamic design of the hull is considered to be the best that can be obtained for a conventional submarine with a requirement for a very small tactical diameter (turning radius) and the need to achieve rapid changes in depth attitude. The after control "X"-configuration is unique to Swedish submarines (although the Royal Netherlands Navy will use the same configuration on their future classes of submarines). Both pairs of hydrophones are mechanically independant and the boats will be highly maneuverable throughout their complete diving depth.

To reduce the risk of detection, the Vastergotland-class will use new hull materials as well as becoming more independant of the surface. Kockums have been carefully studying different methods of propulsion, but so far no other system has proved to be reliable enough to meet the specifications required. Therefore the diesel-electric system with battery back-up will remain the preferred system for the near future, at least. [Ref. 25].

With such a wealth of submarine experience behind them, Kockums have developed three basic submarines for export, based on the designs developed to meet the specific requirements of the Swedish Navy in the Baltic. The Type 45 was the first effort at developing an export submarine (with the approval of the Government), and this submarine is being examined by the Indian Navy. The Type 46 is more similar to recent designs and the Type 47 is very similar to the British Oberon- class. All the boats for export are shock-tested by Kockums, and the yard carries out all sea-trials for the Navy, with a Swedish Navy crew assigned. Future efforts at building boats for export are considered to be a primary means of reducing the overall cost of boats for the Swedish Navy, while at the same time significantly helping reduce the current overseas trade deficit [Ref. 26].

D. MINE WARFARE

Mine warfare has always played a major role in Sweden's defenses. In this regard Sweden uses all three major types of mine: moored, ground influence and floating mines. They are activated in a variety of ways and minefields are of two basic types--controlled and uncontrolled.

The political parties have all emphasized the need for a capacity to take rapid action in laying mines [Ref. 17]. Since the Second World War it has been Swedish policy that every warship have the capability to lay mines. In addition, the Navy has three large minelayers (See Table IV) the Alvsborg, Visborg, and the Carlskrona the last of which was commissioned in 1982. This powerful minelaying capability is backed by number of merchant vessels such as ferries, which in time of crisis can be requisitioned and rapidly converted to a minelaying role, as they are already trained for such duties. Apart from their role as minelayers, the

TABLE IV

Swedish Mine Warfare Vessels

Minelayers

Data	Alvsborg	Carlskrona
displ. (DWT)	2660	3300
speed (kts)	16	20
arms.	3x40mm 300 Mines	2x57mm 2x40mm Cannon; 105 Mines
compl.	97	186 &136 Cadets

Mine Countermeasures Vessels

Data	M15	Hisingen	Gassten	Arko	Landsort
displ. (DWT)	70	140	120	285	350
speed (kts)	13	9	11	15	15
arms.	1x20mm Cannon	1x40mm Cannon	1x40mm Cannon	1x40mm Cannon	1x40mm Cannon
compl.	10	19	17	25	26

three large ships are also used as training ships and submarine tenders.

The Carlskrona is the largest vessel ordered for the Swedish Navy since the cruisers laid down in the 1940's. Built by Karlskronavarvet, the double-bottom hulled minelayer is subdivided between the tank top and mine deck by watertight bulkheads, for a total of 14 watertight compartments. The laying of an accurate minefield requires very precise navigation and maneuvering capabilities. For this the Carlskrona is fitted with twin rudders controlled by

twin electro-hydraulic steering gear and a tunnel-type bow thruster unit. The propulsion machinery is arranged in two engine rooms, with control and monitoring equipment centralized in a single control room located in the forward engine room. Each engine room houses two Nohab F212-D825 12 cylinder diesel engines and associated gearbox, with each engine room providing power to an individual shaft.

The fire control system on Carlskrona has been designed not only for control of the two Bofors 57mm and two Bofors 40mm gun mounts, but also to provide a peacetime training facility which very closely approximates the systems on the Hugin and modernized Norrkopping- class FAC's. For this purpose the ship carries two Philips 9LV 200 radar and optronic systems which can be operated independantly to provide a basic FAC type control system, or combined as a single system to provide the full capability for the more advanced and modernized boats. [Ref. 23].

Although Sweden can be considered to be advanced in both her mine laying capability and her stocks of mines, the same cannot be said of her mine-countermeasure (MCM) force. This is not because MCM units have not been considered to be important, but rather because of lack of the financial resources necessary to develop such a force. By the end of the 1970's Sweden's MCM force had reached a state in the face of modern mine technology where it became vital to modernize the force, if it was to remain effective and ensure mine-free shipping routes and ports. At the beginning of 1981 funds were made available for the Navy to order the first two ships of a new minehunter class, the Landsort -class (see table IV). A total of six MCM's are planned, and the first of the class, the Landsort is expected to become operational by the end of this year, with the second ship operational shortly thereafter. The other four ships of the class were provided for in plans developed in 1982, but to date they have not been ordered.

The Landsorts are diesel powered and designed for unmanned running, equipped for semi-automatic maneuvering (a system to be improved in the future when hovering and track management become computerized and linked to the navigation computer). The fully integrated navigation and AIO systems being developed for the class are a joint development between Swedish and British electronics firms, while the detection and classification sonar selected is manufactured in France. For mine disposal, the Landsorts are equipped with two remote controlled SEA OWL vehicles built by Kockums. Normal sweeping equipment includes mechanical sweeps for moored mines and magnetic and acoustic sweeps for influence mines. In addition, the Landsort can act as the control ship for three remote controlled catamaran mine-sweeps which are being built by Karlskronavarvet and designed for inshore use.

The catamaran sweeps, designated SAM, are self-propelled 15-ton units fitted with a complete computer program to allow the vehicle to simulate the magnetic and acoustic signatures of different type ships. With a "foam sandwich" hull and open deck, the vehicles can detonate mines directly beneath them with the result that the explosions can exert their effect through the hulls without any severe effect.

The first of these catamarans was delivered in November 1982 and is the first of five vehicles built for the Navy. The Navy has an option on an additional 15, although currently no orders have been placed. [Ref. 20].

E. MARITIME AIR

Although only a small branch of the Swedish Navy, the Naval Air arm is, nevertheless, one of the most important for a number of reasons, not the least of which is the fact that the Swedish Navy currently relies on its helicopters for nearly all its ASW capability.

The naval helicopter squadrons are under the command of the various naval base commanders. Two types of helicopter are currently in use: the large Vertol 107 HKP4 used for ASW, mine clearance, radar surveillance, air-sea rescue and transporting the Coast Artillery Rangers; and the Augusta-Bell 206B HKP6 used exclusively for ASW and radar surveillance.

The Navy operates two squadrons of helicopters, Number 1 and Number 2. Number 1 Squadron is stationed south of Stockholm near the Berga Training School and is responsible for an operating area north of Stockholm along the coast and out to the territorial limit. Number 2 Squadron is based at Gothenburg and covers the southern coast of Sweden as well as the area to the west.

Number 1 Squadron is equipped with six HKP4's, three of which were purchased from the United States in 1963 and three which were built in 1973 under license from the Kawasaki firm in Japan; and six HKP6's. Number 2 Squadron is equipped with four of each type helicopter, with the HKP4's built under Kawasaki license. The aircraft are equipped with the French-built Sintra Alcatel DUA V4 dipping sonar, modified to meet Swedish requirements for maintaining transducer attitude regardless of water currents. The system has been used by the Swedish Navy for about 5 years with satisfactory results.

Electronic Surveillance Measures (ESM) and Electronic Countermeasures (ECM) are carried out with equipment designed and built in Sweden, although there are plans to procure the French Omera ORB 32 HERACLES I-band radar for self-protection and stand-off jamming capability. Attacks on known hostile submarines are conducted using the FFV Type-42 torpedo, of which each helicopter carries four. The aircraft are also capable of carrying mines or depth charges.

The HKP4 is also equipped with three MARLIN ASW devices. These are thrown overboard by hand, but can only be deployed when the exact location of a submerged submarine is known. The MARLIN is a small device fitted with a powerful transmitter and a strong magnet, designed to attach itself to the hull of the submarine and transmit a coded signal. The helicopter uses its dipping sonar in the passive mode to listen for the MARLIN transmissions which the give the crew the bearing of the submarine. Using the normal operating procedure of deploying a pair of helicopters, it becomes possible to pinpoint the location of the evading boat. The MARLIN is primarily intended for peacetime use against submarines which refuse to identify themselves and prove to be evasive. [Ref. 15].

Peacetime manpower requirements of the two squadrons are set at 200 and 150 respectively, but the squadrons are organized into different departments depending on the mission. Training is carried out by Number 2 Squadron, and pilots receive their initial training in French Alouette II helicopters before progressing to the HKP6. Prior to helicopter training naval pilots undergo 60 hours of fixed-wing aircraft training with the Swedish Air Force after having completed a general naval training period as a naval officer for a period of six to seven years. The time from basic training until a pilot becomes fully qualified takes about five years. After qualification in the HKP6, pilots advance to the HKP4. [Ref. 19].

Number 1 Squadron is tasked as a fully operational front line squadron in which all pilots are fully qualified to fly either type of aircraft. Before joining the squadron, all flying members are completely trained in the various aspects of ASW.

F. THE FUTURE OF THE NAVY

ASW is one of the few areas in which the Swedish Navy acknowledges it has deficiencies. The problem was highlighted in October of 1982 when the Swedish Navy was unable to keep track of the intruder which penetrated the archipelago as far as the Berga training school. Admittedly the sonar conditions at the time were very poor, for the weather had been very warm and calm, the surface of the water was calm, and at depth the water temperature was very low. Furthermore, the salinity in the area varies considerably and the bottom is rocky and uneven. All these problems posed considerable problems for the helicopter crews, but they are the same problems they will face in times of actual combat. As a result, the Swedish Navy has identified many of the areas in which it needs to concentrate its efforts toward improving its ASW capability. It will continue to rely on the helicopters as the mainstay of the ASW force, but these will be augmented by surface VDS-equipped FACs of the Stockholm -class. [Ref. 24]. This is not an ideal solution to the problem, but the Navy cannot afford a single-role, dedicated ASW vessel, and for the time being the only surface units that will be available for such a role will be the multi-role FAC's.

Another area identified as requiring improvements is the helicopter squadrons themselves. To achieve maximum capable efficiency, the squadrons require an increase in manpower, but this is not possible because of current economic constraints. A further problem lies in the limit placed on overtime pay (200 hours is the maximum) by the Defense Union. Any increase in the agreed number of working hours has to be the subject of negotiations. No time-off in-lieu-of pay is authorized for extra hours worked, and cash-payment has to be accepted--which is subject to a taxation rate of 70 percent.

A final area requiring special attention is the torpedo and anti-submarine branch. Much attention must be paid to this area through a higher standard of training and the implementation of better courses of instruction. It would also be to the advantage of the Navy if it was able to send its ASW officers abroad, but the Navy is currently provided only a small budget for sending officers to other countries, and this amount has to be spread over the whole spectrum of naval defenses. However, there is a strong possibility that this budget will be increased in light of the continuing incursions by foreign submarines in Swedish waters. If Sweden is to improve its ASW forces, particularly in operational and tactical expertise, it is essential that ASW exchanges with other navies which possess high-quality ASW forces be increased.

G. THE SWEDISH AIR FORCE

At the end of World War Two, Sweden possessed the second largest air force in Europe (behind the United Kingdom), and since that time the country has attempted to maintain a strong and balanced defense, although rising costs have forced cutbacks in some areas. Even so, the air arm remains in the aggregate larger than that of Great Britain or France. [Ref. 21] With a "people-to-plane ratio" of about 25:1, Sweden ranks with Israel ahead of other nations in maintaining a first line, combat ready air force with a minimum number of people.

Combat aircraft, designed and built by Sweden's own aerospace industry, rank among the world's most advanced designs, both in aerodynamics and in "black box" capability. But behind that sophistication is a functional design philosophy that gives Sweden even more "equivalent aircraft" than its current fighter and attack squadrons indicate--high

sortie rates and a heavy flying hour program come from quick turn-around times and a hard-nosed design emphasis on ease of maintenance.

Swedish planes are flown with about one-half the "people-to-plane ratio" of the U.S. Tactical Air Command. In terms of combat aircraft to total people, Sweden's air force is four times leaner than France's or West Germany's. With personnel costs absorbing more than half of many countries' defense budgets, the efficiency of the Swedish Air Force stands out. But the one characteristic of the Air Force which stands out from the rest is its deadly serious and pragmatic approach to combat readiness. As the head of the Supreme Command's Press Department put it, "The Swedes have decided that their aircraft will not meet the same destiny as Egypt's in the Six Day War." [Ref. 21].

In connection with the portion of Swedish defense policy which states that an isolated attack against Sweden is unlikely, the concept of marginal attacking forces is particularly important. Since, according to the Swedish scenario, an invader will only be able to task such forces against Sweden as can be spared from other operations, Sweden will not have to prepare to meet the full might of a power such as the Soviet Union, only the marginal forces left over after the Soviet's other military priorities have been met. This factor, combined with the defense-favorable factors of Swedish geographical characteristics, lends credibility to Sweden's defense efforts and particularly the role of the Swedish Air Force. [Ref. 22].

Successive Swedish governments have spent approximately similar proportions of the GNP on defense, averaging about three percent per year. Rising costs have forced cutbacks in some defense areas, notably large naval vessels as recounted above. But today Swedish defense forces are characterized by a large professional Air Force which has in its

inventory 421 combat aircraft, most of which are kept in full operational condition. A small portion of the Air Force's assets are mothballed, in anticipation of some future mobilization.

In addition to being quantitatively well equipped, the Air Force is equipped with very high-quality equipment, resulting largely from efforts to maintain an independent arms industry. While politically important for the credibility of Swedish neutrality, this has also permitted Sweden to manufacture arms specifically designed for Sweden's geographical climate and the current military doctrine and manpower limitations. This has allowed Sweden to take full advantage of its resources and to develop a viable military approach to the defense question. [Ref. 5].

While Sweden does not represent a primary target in the event of an all-out East-West war, the country does constitute an important potential transit route, especially for aircraft. Additionally, ground forces and cruise missiles of both sides can be expected to use Swedish territory in an effort to reduce the time and distance needed to engage the enemy. The capture and use of Swedish airfields would also be an important asset for the Soviet Union in wartime, for in the absence of Soviet carrier-based aircraft (until the mid-1990's) this would extend Soviet air coverage over the Norwegian Sea. [Ref. 14].

The primary means of countering such threats is the Swedish Air Force, and in this regard it serves a dual purpose. One one hand its 216 intercepters aircraft (composed of 180 J-35 Drakens and 36 JA-37 fighter-variant Viggens) provide the ability to prevent transit of Swedish airspace. In this respect it is important to note that, according to defense officials, the LM Ericsson pulse-doppler radar and British Aerospace Skyflash missiles of the newer Viggens (of which 113 further aircraft are on order)

provide the look-down/shoot-down capability for acquiring and destroying low-flying cruise missiles [Ref. 1].

On the other hand, the Air Force provides a powerful anti-invasion force. The 97 FGA AJ-37 ground-attack Viggens are highly sophisticated weapons platforms, capable of all-weather operations against ground and sea targets. This forces an invader to choose between forgoing the element of surprise by first attempting to destroy the Swedish Air Force (thus providing the time required for general Swedish mobilization), or else mounting a direct invasion without preparatory attacks, with the likelihood of sustaining high losses during a Baltic transit.

The Swedish Air Force provides a good illustration of the mix of tactical doctrine which applies to all the Swedish armed forces--carefully thought-out, domestically produced systems and non-professional, mobilizeable defense structure built around a nucleus of professionals for the tasks requiring a high degree of technical skill and specialization. A good example is the highly mobile, dispersed Swedish wartime aircraft-basing system which is exercised annually during major war-games. In the event of attack, each Swedish combat-aircraft division (18 aircraft) disperses to a number of secondary airstrips, most of which consist of specially built segments of the civilian road network. These are too numerous for an enemy to be able to destroy them all, and at the same time they avoid a large concentration of aircraft at any one base. Finally, the road strips themselves are extremely difficult for an enemy to locate.

The concept of the strips is that ground service vehicles can be hidden in the woods nearby, until an aircraft touches down. Then the ground crew of 15 mobilized personnel, under the supervision of one professional air force technician, carry out a complete check of the

aircraft, refuel and rearm it, and oversee a pilot change. The entire process takes less than 12 minutes, and in less than twenty minutes from the moment of touch-down, the aircraft can be airborne--ready for another sortie. The ground vehicles and crews disappear into the forest, either to wait for another aircraft or to move to another prepared runway strip. [Ref. 1].

This basing system is remarkable for several reasons. First, it means that Swedish Air Force fighters can carry out between two and three times the number of sorties in the time it takes another air force to carry out one and prepare the aircraft for the next one. Second, it means that Swedish Air Force ground support and runway facilities are difficult, if not impossible, to neutralize. Third, apart from the supervisor, all ground crew personnel are mobilized reservists who have only a few days to relearn the skills they acquire in basic training.

All this reflects the thoughtfulness with which Swedish technology has been applied to the military. The present basing system is the result of between 15 and 20 years of research and development in this field, seeking not only maximum aircraft mission capability for Swedish combat aircraft, but also easy maintenance and aircraft turn-around by non-professional ground crews. [Ref. 27].

In addition to the development of training and support doctrine and procedures, the Air Force has spent considerable time on the development of special tactics ideally suited to the capabilities of the Viggens. As important as these aircraft are to Swedish defense, the loss of any number of them would be a serious problem for the defense establishment. In addition, with the continued rise in defense costs in the minds of defense planners, expending air-to-air missiles unnecessarily must be avoided. Accordingly, a tactic called the "Swing S," designed

specifically for use against Soviet or Warsaw Pact MiG aircraft, has been developed. In this maneuver, the Swedish pilot draws the Soviet pilot into air-to-air combat at close range. Knowing the limitations of the Soviet-built aircraft's capabilities, particularly regarding the radar and weapons systems, the Swedish pilot rapidly maneuvers to prevent the enemy from gaining a position to his rear, for Soviet tactics most often reflect the use of the heat-seeking missiles which must be fired from the rear-quadrant in order to be effective. Once the Soviet is locked in combat, he is drawn to an altitude of less than 1000 meters, at which time the Swede makes a rapid dive directly toward the ground, hoping to get the enemy to attempt to follow him. With the superior handling capability of the Viggen, the aircraft is able to be pulled from the dive at the last minute, enabling the Swedish aircraft to escape; the MiG, less maneuverable at high speed and low altitude, is forced into the ground. Demonstrations of this maneuver to American pilots familiar with the American F-18 fighter have been most impressive, and NATO tacticians believe it will work, primarily because of the design of the Viggen with its small forward wing. [Ref. 27].

The Swedish Air Force is the first line of defense, with doctrine, tactics and material designed to fulfill that role. The quality of available equipment is state-of-the-art with training of the professional nucleus commensurate with the importance Sweden places on this branch of the service. While other services have suffered from the economic conditions of the past decade, the Air Force has maintained its position at the top of the defense hierarchy. With the recent and continuing Soviet incursions into Swedish territorial waters, there is no reason to assume that the Air Force's role will change in the near future.

IV. SWEDISH SECURITY POLICY FOR THE 1980'S: THE SILENT PARTNER?

During the 1970's there was a broad domestic political consensus to keep Swedish defense spending at 3.5% of GNP. Since the defense establishment had been built up during the 1950's and 1960's, when 5% of GNP was devoted to defense, it was possible to maintain the same force structure. While the Air Force and Navy modernized their services through reduction in size, the Army kept its force of almost 30 field brigades. The need to place all conscripts in the wartime organization kept the numbers high, but the Army had to compromise on training and weapons. In the choice between an introvert, army-oriented strategy and an extrovert, navy and air force strategy, the Army prevailed at first for political and ideological reasons. Toward the end of the decade, this trend was reversed as Sweden decided to develop a new combat aircraft, modernize the Navy's anti-submarine warfare capability, and improve the mobility and alertness of its field forces. Behind this reversal in policy was the end of detente in Europe and the increased interest and capabilities of the superpowers in Northern Europe. Swedish defense policy moved toward a more European security oriented posture.

A. CHANGING STRATEGIC CONDITIONS

Sweden entered the last decade with high hopes for detente. Willy Brandt's Ostpolitik and the Helsinki talks leading to the Conference on Security and Cooperation in Europe (CSCE) spelled the end of the cold war and the beginning of a more peaceful period in European history. As

always in the post-war period, the end of detente came later to Sweden than to most other European nations. Only the Defense Bill of 1981 acknowledged that relations between the superpowers were again cooling off, but the time lag did not matter much when it came to the practical conduct and execution of Swedish national security policy. The considerable material resources of the defense establishment had been gradually renewed and no fundamental change had occurred in the direction of their use.

During the 1970's Swedish official statements on foreign policy avoided the term "Nordic Balance". A steady and consistent Swedish foreign and defense policy promotes peace, stability and low superpower presence in Northern Europe, according to the Swedish Defense Department. [Ref. 28].

The Swedish defense planning system, with formal study committees, parliamentary inquiries and five-year defense decisions, offers the student of international politics considerable documentary evidence on the official thinking of the Swedish leadership. Yet the results are somehow devoid of linkage to the true international situation--tension or the lack of it between the superpowers and Europe is indicated, and from this come scenarios for crises and war-fighting that may or may not affect the country. For obvious reasons of non-aligned policy the "aggression scenarios" that link the defense structure to political and military realities are top secret. On the record, Sweden as such is no target of aggression, but Swedish territory--particularly in the far north and near the Danish Straits--provides an interesting area to observe should war break out in Europe. [Ref. 19].

For Sweden, the development of superpower general purpose forces has increased the demands on readiness, mobility and strategic intelligence concerning Swedish

forces. The forces in the north are being strengthened, and without much real attention from outside Sweden, the Swedish high command has undertaken measures designed to react to the situation.

In spite of Norwegian decisions on pre-stocking allied equipment, occasional Soviet pressure on Finland and the weakening of Danish defense, offical Swedish statements insist that nothing fundamental has changed in the security pattern of Northern Europe. The intensity of military activity in the area is on a higher level than before, however. In 1980, Swedish jet fighters were sent up daily to counter potential intruders of Swedish air space and the Navy intervened almost as frequently. The decision of Parliament in 1972 to abolish the submarine hunting capability and the expansion of Swedish territorial waters to 12 nautical miles in 1978 led to frequent violations culminating with the U-137 submarine incident in October 1981 and the discovery of foreign submarines in Stockholm harbor in the summer of 1983.

The two specific strategic developments that have resulted in comments by Sweden are cruise missiles and nuclear weapons in the Baltic. The NATO INF decision in December 1979 led in the beginning to a debate in Sweden cast in terms of World War Two thinking: Would the GLCM's violate Swedish air space on their way to Soviet targets and what implications would this have for Swedish neutrality in wartime? Original responses assured the public that the Swedish defense system had a high capability to shoot down cruise missiles. Later analysis pointed to the obvious: the cruise missiles most threatening to Scandinavia are not the GLCM's based on the European continent but the SLCM's and the ALCM's based on American B-52 bombers that may attempt to penetrate the northwestern part of Soviet air defense. General concern is that if Swedish air space is

violated by strikes enroute the Soviet Union, without Sweden reacting to the violations, it is tantamount to a declaration of non-neutrality and an invitation to the Soviets to respond in kind against Sweden. But if cruise missiles are launched, it means a general war in Europe and the Swedish Air Force will be occupied anyway, so there is a certain mootness to the argument.

The permanent stationing of six obsolete Soviet Golf-class submarines with SSN-5 nuclear missiles in the Baltic in 1976 is another element of concern. Given the number of nuclear weapons on the Kola Peninsula and in the Leningrad and Baltic military districts, the submarines add only symbolic value. The confirmation that even the obsolete Whiskey -class submarine which ran aground in October 1981 carried nuclear weapons brought a new perspective to the issue of a nuclear free Baltic (and Soviet nuclear command-and-control procedures). [Ref. 28].

B. SWEDISH NUCLEAR POLICY

Swedish nuclear policy for the past twenty years has been a doctrine against nuclear weapons. In the mid-1950's a debate raged inside the country whether Sweden should acquire nuclear weapons as recommended by the military, or not. In 1959 a decision was taken to delay the final decision, a decision confirmed in 1968 when Sweden signed the Non-proliferation Treaty. From then on interest in the nuclear question lessened and was devoted to civil defense and the protection of the civilian population and military forces in a nuclear war. Civil defense was planned in the late 1950's and built up during the 1960's. The risk of nuclear attacks against the population had provided the framework for an ambitious effort of construction of nuclear shelters, evacuation and creation of a command-and-rescue organization.

The 1972 defense decision reversed this trend. Nuclear terror was considered less likely and the civil defense effort was directed to counter the effects of conventional warfare and the secondary effects (radiation, fallout, etc.) of a nuclear exchange on the European continent [Ref. 3]. The infrastructure was already constructed in Sweden, but both the civil defense bureaucracy and the public forgot about nuclear war in the 1970's. When the issue returned with the NATO neutron bomb fiasco of 1978 and the INF decision of 1979, the reaction was dramatic. If nuclear war as a possibility had been undersold in the early 1970's, it became oversold at the end of the decade. The bureaucracy went on doing what it had been doing all along.

Thus current Swedish military doctrine claims that the Swedish armed forces will be able to absorb a few nuclear attacks. They are not designed to fight for long in a full nuclear environment. The rational is that Sweden as such is a secondary target and there is no reason why the power blocs in Europe should cross the nuclear threshold first in Scandinavia. The counterargument--that the vast space and small population of the area makes it a potential target of limited nuclear warfare--is usually dismissed. The re-emergence of the nuclear issue in Sweden came too late to have any impact on the military defense decision of 1982, and full impact in 1983 has yet to be evaluated. [Ref. 5].

C. DEFENSE BUDGETS AND POLITICAL CONSENSUS

During the 1970's the defense effort proceeded without much attention to the strategic developments of the time. Like all Western countries, the Swedish economy was hit by the energy crisis. In the 1950's and much of the 1960's approximately 5% of Swedish GNP was allocated to defense. In 1965, when detente grew earlier in Sweden than in the

rest of Europe, the figure dropped to 3.5%, where it has remained. In absolute terms the budget increased, but of course not enough to keep pace with the cost increase in weapons systems and personnel. At the beginning of the 1970's the Social Democrats in power projected that the superpowers, feeling the same cost-crunch, would also cut their defense expenditures [Ref. 29]. The parties in power since 1976 have avoided international comparisons. The cost of defense has been the subject of great consensus among the four democratic parties. In the debates preceding the five-year defense decision of 1982 the Social Democrats wanted a 0.5% lower defense budget than the two middle parties, and the conservatives a 2.2% higher budget. Thus, the consensus budget of the 1970's and 1980's was established at a level that consumed 30% less of the GNP than in the 1950's and 1960's. In spite of the impressive defense capital built up during these decades, the costs were bound to have an effect. As the equipment of the armed forces gradually became obsolete, it was replaced, but not to the same extent as before.. Over time the services were forced to respond, each in its own fashion.

D. THE DEFENSE DECISION OF JUNE 1982

In the 1982-83 fiscal year, Sweden spent $3.22 billion (US) on defense, representing 2.9% of the country's 1981 GNP. The inflation rate for the period was 9.6%. In addition, the increased cost of defense helped frame the defense budget issue. The Supreme Commander of the Swedish Armed Forces submitted three alternative five-year defense plans, and parliament ratified the one providing the least economic resources to the military. This meant that over the following ten year period, expenditure on the peacetime military organization would have to be cut back to roughly

$1 (US) billion. Modernization and strengthening of the wartime forces are to continue, though at a reduced rate compared to the other options. The result will be that only eight divisions of Viggens will be acquired, instead of the originally planned ten; that twelve, rather than fourteen, submarines will be maintained; and that the modernization of existing and acquisition of new material, including mine countermeasures equipment and anti-tank missiles--will have to be slowed and the numbers involved reduced.

It should be noted that the June 1982 decision did ratify the controversial proposal for indigenous development and production of JAS second generation multi-role combat aircraft (named **Gripen**) for the Swedish Air Force. By authorizing the acquisition of the initial 140 of these aircraft for the 1990's, the future of Sweden's independent aircraft industry is assured, and the strength of the Air Force will be maintained so long as the necessary procurement funds continue to be allocated. In 1983 the Swedish Social Democratic government confirmed the decision. [Ref. 13].

E. 1983-84 DEFENSE BUDGET DECISIONS

In March 1983, the Swedish Social Democratic government announced its decision to proceed with the development of the **Gripen** multi-role aircraft. During the previous year's parliamentary defense debate, which ended with a marginal victory for the JAS proposal, the Social Democrats--then in opposition--declared themselves in favor of a new multi-role aircraft, but they wanted a more detailed cost analysis to be made before making a final stand on the JAS. In addition, they strongly entertained the prospect of purchasing a foreign-built aircraft, most likely the American F-16 or F-18 fighters, which could have been had at very low

comparative cost. [Ref. 9]. This proposal sparked considerable debate because of its implications for Swedish neutrality, especially in view of Soviet charges that Sweden was in fact a silent partner in the NATO alliance. The decision was held in abeyance at that time, pending the results of the cost-analysis. The analysis was completed at the end of February 1983, and the Social Democrats endorsed the Gripen.

The Social Democrats are now convinced that the program can be accomplished within the economic framework given, although some uncertainties prevail. The Defense Minister, Anders Thunborg, said at a press conference to announce the decision that "these uncertainties are not great enough to prevent us going ahead with the program. The cost will be kept under very close control." [Ref. 1].

The basis for the analysis was a JAS 39 program cost of $3.493 (US) billion at February 1981 prices, as submitted in June 1982. This includes development work and manufacture of the 140 aircraft by the year 2000. The figure also included most weapons and support equipment. Thunborg revealed at the time that the Air Force budget estimate for the period of development includes a reserve of $243 (US) million, and a reserve in the JAS program budget of $352 (US) million to safeguard it against currency fluctuations.

Thunborg considered this sufficient to justify his confidence that the program will stay within limits. He stated that if something did go wrong with the program, the numbers of aircraft would have to be reduced from 140 to 130 or by reducing "some other ambitions in the system." [Ref. 1] He concluded by saying that the program can only continue if there are no further reductions in future defense budgets.

In May of this year, the Swedish government, working in agreement with the opposition parties, agreed to provide an

additional $305 (US) million for the defense budget over the next three years to compensate for the decreased value of the Swedish kroner because of continued high inflation rates. The Swedish military command had previously asked for $350 (US) million, the government offered $200 (US) million. But the debate which followed, sparked by continued threats to Swedish territory and the strong American dollar on foreign currency markets, brought about a change in the Social Democrats' position. The additional funds are marked for continued operation of three squadrons of the older J35 Draken intercepters, totalling about 70 aircraft, until the mid-1990's when the last of the Gripens will be delivered. These additional funds will allow the Drakens to be modernized, although the extent of the modernization program has not been fully defined.

The funds are also to be spent on continued modernization of the problem areas identified earlier in this paper, from ASW to ECM. But most significant, the money is to assist in the purchase of the new American-built AIM-9L Sidewinder air-to-air missile, which will be carried by the Viggens. This is the best indication by the Swedish government that their defense establishment relies on NATO for support. [Ref. 24].

F. NEUTRALITY AND THE ARMS INDUSTRY

The Swedish armaments industry was built up during World War Two. From the beginning of the Korean War, the aircraft industry concentrated on the development and production of combat aircraft. Four generations of over 2000 combat aircraft were developed and produced over the next thirty years. Also, other advanced equipment such as tanks, submarines and electronics was developed and produced in the country. Since the major Swedish weapons producers are half

in and half out of the defense business, the resultant spin-off between the military and civilian research and development sectors has been increased.

The achievement of keeping up with international military technology has been reached through clever and selective imports of components and technology. Despite its non-aligned status Sweden managed in the early 1950's to reach a bilateral agreement with the United States on exchange of military technology. In the 1970's agreements with most West European countries followed. The SAAB jet fighters all have British or American engines produced under license. The fighter variant of the Viggen has 20% foreign components--14% are American. [Ref. 16].

For nearly thirty years, then, Sweden was able to remain non-aligned and still have access to the same military technology as the European allies of America. Since it was in the aerospace industry that Sweden seemingly achieved spectacular results of independence, it was logical that aerospace was the military field where the first impact of financial or economic difficulty would appear. In the mid-1970's Sweden tried, like France, to compete with the United States in the jet-fighter market of Denmark, Norway, the Netherlands and Belgium. SAAB had managed to sell Draken to Denmark in 1968, but seven years later detente was falling apart and Sweden paid a price, like France, for not belonging to the military organization of NATO. In 1978 the Carter administration, implementing the arms trade policy of Leslie Gelb, prevented Sweden from selling Viggens to India because the engine was American. Since arms export plays a small but increasing role in Swedish foreign trade, U.S. restrictions on sales to third nations have traditionally been unimportant. More important is the Reagan administration policy to use advanced technology as a cold war weapon. Only after long and hard negotiations has Sweden been able

to achieve technology release for the modified General Electric 404 engine to power the new Gripen and the Sidewinder missiles. Since the Gripen will have a foreign content of over 30%, the question of technological sanctions and their impact on neutrality will remain in the public light for the remainder of this century. [Ref. 29].

The question of the Viggen successor in the Swedish Air Force became the single most important and consistent issue in Swedish defense planning in the 1970's. This may seem paradoxical since Viggen is not due to be replaced until 1992 and the fighter variant was introduced into the Air Force only at the end of the last decade. But in a nation that fights no wars, long range planning seems to involve the most important problems, especially since the question concerns enormous expenditures. The Viggen replacement and the future of the Air Force became entangled in the doctrinal debate, but the international strategic dimensions were never brought out.

It was the cost of Viggen that had caused a major controversy in the late 1960's and early 1970's. In fact, the cost for the 329 aircraft increased by 55% in constant prices, a normal figure for advanced weapon systems. The Viggen system always remained within the Air Force budget, but its opponents managed to create the illusion that the aircraft had exceeded all budgetary limits. In 1972 a narrow majority of Social Democrats decided that Viggen should have no advanced combat aircraft as a successor. [Ref. 16].

Most of the decade was spent debating the issue, and given the new fashion of alternative planning and keeping options open, no less than twelve formal investigations by politicians, bureaucrats and military explored the topic. Since the strike variant Viggen was to be replaced first, the original plans called for a combined trainer/light

strike aircraft named B3LA. The Conservative Defense Minister managed to appropriate $7 (US) million for the B3LA in 1977, but his Liberal successor took away the money one year later when the name changed to Sk 38. Finally, in 1980 the government announced a two-year competition for a multi-purpose combat aircraft, JAS. General Dynamics presented the F-16, McDonnell-Douglas the F-18, and Northrup the F-5G. After an evaluation based on the artificial ground rules formulated by the politicians-- JAS, now Gripen, is to be half the size and cost 60% of Viggen --the Air Force and the Commander in Chief recommended that the proposal formulated by Industrial Group JAS (the Viggen industries) be accepted. The Chief of the Army opposed the decision, arguing that the selected engine will give the new aircraft a too low capability at the end of the century [Ref. 28]. As outlined in the previous section, the Social Democrats originally opposed the funding, but have since altered their position.

The Swedish project had the advantage of creating larger employment in the nation than the American competitors. The project follows the same pattern as Viggen, the same industries are to develop and produce essentially the same components as they do now, but industry is to take a higher risk. The financial penalties are higher and so are the technical risks. Under current plans Gripen will replace the strike Viggens by 1992 and then gradually all other versions sometime after the year 2000. In this decade, then, Sweden has retained the capability to develop all the weapons systems the country currently needs, but Gripen is to be the last Swedish developed combat aircraft; the aerospace industry plans to be 50% civilian as early as 1990. [Ref. 28].

G. THE DOMESTIC ASPECT

Since the Second World War Swedish defense decisions have been taken by broad consensus among the four democratic parties in Parliament. About every four years defense committees representing the four parties have been appointed to prepare the next defense decision, which since 1972 have covered a five-year period. Long-range planning introduced in 1958 was further refined and formalized with the 1972 decision to introduce an elaborate system of perspective planning, program planning, system planning and program budgeting. The new system had been introduced by politicians who thought they could use it to control the military and cut the defense budget in a rational manner. Instead the military mastered all the intricacies of the system much better than the politicians. It was a good educational tool for acquainting the politicians with the facts of Swedish security, but it played no decisive role in the important questions of aircraft acquisition and conscription, which were the key defense issues of the time.

The defense decisions of 1972, 1977 and 1982 nearly coincided with the Social Democratic Party Congresses of 1972, 1975, 1978 and 1981. Traditionally, members of the party congresses have been more radical than the party leadership, with the defense debates and resolutions reflecting this political bent. Yet the consensus on defense has not changed since 1972. In the wake of detente the radical wing of the Social Democratic Party finally saw an opportunity for substantial cuts in the defense budget.

The most important reason for this is the power shift of 1976 that broke forty years of Social Democratic rule. Another reason is the harder political climate in Europe and the world since the Soviet invasion of Afghanistan and the imposition of martial law in Poland. The failure of the

anti-defense advocates represented by Mrs. Theorin in the 1974 defense committee to move their political colleagues also played a role, and Mrs. Theorin was defeated in 1975. By 1978 the party was no longer in power and the nuclear issue had re-emerged in Europe. [Ref. 8].

Another influential person in the defense debate, Mrs. Myrdal, had published an acclaimed work in 1976 which lent credibility to the anti-nuclear stand of the party. The party decided that less emphasis in the future should be put on conventional military defense and more on civil and economic defense. The party managed to combine the two incompatible ideas by expressing the thought that the threat of nuclear war was so great that the concept of conventional invasions and a defense designed to meet such a threat was obsolete. Yet detente still prevailed, so the defense budget could be cut.

The sobering world events cast their shadow over the 1981 congress, dominated by totally different issues than defense. The goal was to regain power in 1982 at the same time as international developments had proven Mrs. Theorin and her sympathizers wrong about defense. A few months later the "Whiskey on the rocks" episode revealed that Swedish public opinion was much more pro-defense than expected. Contrary to predictions, the peace issue played a very small role in the 1982 elections. The report of the Palme commission on disarmament and security had received little publicity in Sweden. The nuclear free zone issue had been defused by the submarine grounding incident and the peace movement discredited by the fiasco of an attempted summer peace march to Moscow and Minsk [Ref. 11]. The public, worried about jobs and inflation, could not be persuaded to think about the probability of war in Europe. The five-year defense plan of June 1982 had made the issue a non-political one.

H. DEFENSE DOCTRINE AND FORCE STRUCTURE

The failure of the Social Democratic left wing to change the direction of the defense effort in the 1970's was important to the current defense policy. Given the tight party discipline, the threat was probably never too great; more realistic was the effort to change the military structure of the armed services and with it the military doctrine. The campaign had three major elements: political, economic and doctrinal.

The 1968 defense decision had ended with considerable controversy. The ruling Social Democrats had approved the production of Viggen but given the rising costs of defense equipment and the growing detente in Europe, they were looking for other alternatives. The Air Force had been the glamor arm of the services, receiving a proportionally higher share of the defense budget than the Army. In 1968 the Army's territorial strategists saw an opportunity to find support for their ideas. During the next seven years they advocated a large conscript "People's Army" armed with inexpensive but efficient weapons. Since they were allied with the party in power and appealed to romantic but unrealistic parallels with armies in Vietnam and Yugoslavia, they at first succeeded in getting their position placed in the 1972 defense decision on total defense. But the extreme debate which followed ultimately resulted in defeat for the extreme territorialists, for by 1975 it was already seen that such a position was not realistic, given the threat from the Soviets.

With the constant budget level, the most important question was the development of the force structure and the role of Swedish defense in Northern Europe. Ever since Sweden's decision not to join NATO in 1949 the defense doctrine has been based on the idea of an aggressor's marginal resources

being used against Sweden. As late as 1975 the Swedish defense staff estimated that it would take at least 30 divisions to conquer the country in a conventional war. At the beginning of the 1970's the goal of defense was established at delaying the enemy, maintaining political freedom of action to negotiate with the enemy about cease-fire, peace, and freedom, and discussing with potential allies about assistance and intervention. [Ref. 30].

As long as 5% of GNP was devoted to defense, Sweden was able to field 30 divisions after mobilization, maintain a sizeable Navy of destroyers, torpedo boats and submarines and equip one of the largest Air Forces in Europe. 3.5% of GNP was not enough for the job, but the conscript system remained the basis of the defense effort, and politicians claimed that to change it would deny the defense structure of popular support. As a result, 90% of all twenty-year old men spend 7.5-15 months in basic training and 73% are placed in the ready reserve units. And because of the different manpower requirements and the differing effects of rising technological costs on each of the three services, each of them approached their organizational problems in a different way. [Ref. 8].

The changes have resulted in the Navy and Air Force being cut in half, but the Army has been successful in maintaining support and has only been forced to reduce its size by three divisions from the original thirty, and this spread out over a twenty-six year period (See Table V). In 1972 the Army planned to have twelve infantry brigades ten years later; in fact, eleven brigades have been modernized, but instead of moving the brigades of the older type to local defense, the Army has kept them in the field army. Deficiencies in fire-power, mobility and all-weather anti-aircraft capability as well as training hamper the older brigades of the 1960's. Also, the new brigade type of

TABLE V

Swedish Force Structure After Mobilization

	1966	1977	1982	1992*
Old Infantry Brigades	20	20	11	7
New Infantry Brigades	--	--	9	11
Norrland Brigades	4	4	4	5
Armored Brigades	6	4	4	4
Destroyers/Frigates	17	8	2	--
Submarines	21	17	12	12-14
Coast Artillery Battalions	41	34	30	29
Fighter Squadrons	28	17	12	12
Strike Squadrons	12	5.5	5.5	5.5
Light Strike Squadrons	--	5	5	--
Reconnaissance Squadrons	10	8	6	6

*planned

post-1977 is not as well equipped or trained as the superpower forces. In order to absorb all conscripts into the mobilized military organization, the Army has not spent enough money on hardware and too much on manpower. Even so, the basic training period was cut from 9 to 7.5 months in 1972, and refresher training has been cut as well. [Ref. 22].

Operational planning was changed toward the end of the decade and the armed forces began to prepare alternative plans to meet the enemy inside the country's borders. But in 1980 the trend was reversed, refresher training was resumed on a larger scale, several transports were bought to increase the airlift capability, and the future fighter force was adjusted from 8 to 12 squadrons. As a result of the U-137 incident more funds were allocated to the restoration of submarine hunting capability in the form of helicopters and specially equipped fast attack missile boats. The mobilization and strategic warning systems were upgraded due to the increased risk of surprise attack.

The changing force structure has operational consequences that are infrequently discussed in Sweden. Within the nation most people do no think in these terms, and those who do seldom analyze the implications out of fear of breaking the unwritten and unspoken "rules" of Swedish non-alignment. [Ref. 10].

In the future, Sweden will be forced to make a decision--for economic reasons--on whether to have an introvert or extrovert strategy for the armed forces. An extrovert, Air Force- and Navy-oriented strategy allows force projection, albeit modest, in the Baltic region and enables Sweden to act outside her borders. An introvert, Army-oriented strategy defends the territory but implies reliance on other nations that will then have to come to the aid of Sweden. The Army has argued in terms of a territorial army but in fact proceeded to acquire much of the sophisticated equipment of a large field army. The Navy and the Air Force have been forced to face the consequences of inflation and escalating costs and have proportionately reduced the size of their organizations while maintaining a high technological level.

The refusal to discuss Sweden in strategic terms explains another aspect of the Swedish defense debate. Official Swedish policy is non-alignment in peace leading to neutrality in war, a concept founded on the experience of two World Wars, both of which were of long duration and conventional in nature. As long as Swedish defense is discussed in terms of a marginal strategy of forces designed to conquer Swedish territory or violate Swedish air and sea space, the Swedish argument is realistic, since the idea of a conventional hot war is easy to understand. But to discuss the Swedish defense structure in terms of deterrence or of becoming a vital part of the Northern European security system where different forces play different roles,

is difficult in Sweden except on a very simple and basic level (as is usually the case where politicians recognize a power vacuum that they attempt to fill). [Ref. 31].

Since both the public and the politicians rarely discuss international relations in power terms and prefer to view the international strategic debate in moralistic terms, the European defense debate and its implications are often misunderstood in Sweden [Ref. 30]. Given Sweden's foreign policy the two discussions are decoupled.

This lack of realistic outlook became particularly prominent in the very early 1980's in a myth surrounding Swedish security policy--the renewed importance of the peace movement. Following NATO's INF decision and the election of President Reagan, the Swedish movements at first had difficulty finding focus. The Swedish debate was carried out on several levels: the Labor Party split and the stronger forces worked toward a nuclear-free zone covering all of Scandinavia; the popular movement worked against nuclear weapons in general, demanding a nuclear-free zone and going through the motions of marches and demonstrations. The size of the organized movements has been relatively small--about 30,000--and their impact limited. In spite of expectations, the peace issue never fully surfaced in the 1982 campaign.

The devensive will of the Swedish people has remained constantly high in the last few years. The percentage of Swedes who have stated they will resist if the country is attacked has risen from 73% in 1972 to 78% in 1982. Support for increased defense spending has risen from 17% in 1972 to 24% in the last election year--the highest figure in the past twenty-five year period. [Ref. 28].

I. ARMS CONTROL AND DEFENSE

The coordination of arms control negotiations carried out by the Swedish Foreign Ministry and national security policy directed from the Defense Ministry has not always been done in the most professional manner. The Unden Plan for nuclear free-zones introduced at the United Nations in 1961 was proposed without the previous knowledge of the Swedish Defense Staff. Over the years, the Swedish arms control apparatus has been refined, the military is represented on all delegations, and the negotiators from the Foreign Ministry are supported by the large technical resources of the Defense Research Institute. From the beginning of the Geneva negotiations in 1962, Sweden played a prominent role. Among the non-aligned nations Sweden had the highest technological expertise and managed to appear as a leader.

For several reasons, Sweden began to change directions in its arms control policy in the 1970's. After the nuclear non-proliferation treaty and the test ban treat, the Geneva negotiations achieved few concrete results. The non-aligned group of nations at Geneva and in the United Nations expanded and took on an anti-Western Third World stance that did not correspond to Swedish interests. The CSCE and the Helsinki Declaration of 1975 had at first raised unrealistic hopes among many Swedish politicians.

Since Sweden is non-aligned, the United Nations and its organizations have been the natural forums for Sweden to express her positions. The decline of the U.N. has certainly hurt Sweden's approach. The important negotiations affecting Swedish security as well are bilateral talks between the power blocs in Europe--the SALT and START negotiations between the United States and Soviet Union, the MBFR talks between selected NATO and Warsaw Pact nations,

and the INF talks between the U.S. and the Soviets. Realizing that the important talks now will concern Europe, Sweden has (like France) offered to host a European security conference sometime in the 1980's. [Ref. 10].

The one issue which could have important political and strategic implications for Sweden--the question of a Scandinavian nuclear-free zone--has not achieved any progress. Occasionally proposed by Finland and politely but firmly rejected by the other Scandinavian countries, the issue has become more substantial in the last few years. Since most Swedish strategic debates originate in Norway, the Swedish Social Democrats in 1981 expressed interest in the idea proposed by the Norwegian Labor Party government. Parliament instructed the government to explore the question with other Scandinavian governments, and the Swedish Foreign Ministry was urged to study the question.

The reaction to the Soviet submarine grounding in October of that year complicated the issue. All Swedish party leaders at first claimed that the Baltic had to be included in any nuclear-free zone. In March 1982 the Under Secretary of Foreign Affairs added special conditions to the proposal (including the control of Soviet nuclear weapons on Soviet territory near Sweden) which all but ended any further discussion. Although the Social Democrats criticized this position that assumed the right to inspection of Soviet military installations, the new Conservative government in Norway let the question fade. Just as had happened in so many previous Swedish foreign policy debates, the whole issue took place in an international vacuum. Why the Soviet Union should restrain the movements and armaments of military vessels in the Baltic, or why the United States should sign a treaty designed to undermine Norwegian and Danish NATO membership were questions never asked. [Ref. 13].

J. PROSPECTS FOR THE FUTURE: THE SILENT PARTNER?

As Sweden continues the latest five-year defense period, many questions remain. Because of a complicated system of indexing defense costs, the Swedish armed forces in the previous five-year period have had additional funds to use, and while much of this was spent buying new equipment, little was done to address the problem of an organization too large for its structure. The most recent funds, including those earmarked for the new Gripen aircraft and other Air Force associated weapon systems, are only a temporary solution to a problem which must be faced in the not-to-distant future. Sometime in the next few years the choice between the introvert and extrovert strategies will have to be faced realistically, and the doctrinal debate between the services finally resolved. The move toward the Air Force and Navy has been facilitated by the events of the early 1980's.

The superpowers have an increased interest in the Scandinavian region, and their presence there continues to grow. Since Swedish forces are now smaller than they used to be, the marginal balance in a crisis or war has tipped against from Sweden. The U-137 incident showed that the old scenario of a long period of enemy build-up followed by a a large conventional invasion might not be the only valid threat perspective, but it also showed the futility of worrying too much about threats based on the vulnerability of an advanced society or the current North-South debate, as long as traditional military threats have not been addressed. . Political blackmail, crisis management, and the potential for quick-strike and grab operations (as highlighted by the suspected Soviet submarine commandos in Karlskrona earlier this year) will place difficult demands on Swedish decision-making and flexible response in the future.

A reappraisal of Sweden's security goals will probably be necessary in the future. If Sweden's military strength appears to be faltering or inadequate, she will have to borrow strength from others. This is the solution chosen by Denmark and Norway in accepting membership in NATO. The location of Sweden between the superpower blocs makes this solution unlikely, but not impossible, for to do so would go against all current political aims, hopes or expectations; however, it would fall within the range of legitimate, future-oriented political analysis. It is important to remember, however, that such a decision would conflict with more than a century of Swedish security tradition, and the outside world would probably interpret a Swedish reversal in policy as a drastic and dangerous change in the regional balance of northern Europe.

A more likely reaction in Sweden would be to avoid, as far as possible, any formal change and retain the current policy of neutrality, placing more reliance on the idea that neither the Soviets nor the Western powers will be inclined to increase tension by taking advantage of Sweden's reduced strength. In such a case, Sweden would then not present the surrounding world with the traditional "strong" Swedish defense model, but she would not necessarily be forced to adopt the weaker example provided by Austria. The real position would fall somewhere between the two: in principle Sweden would proclaim the same security policy as today, but internally with less confidence and externally with less credibility than at present.

A defense structure designed to counter the current and future threats is required. So is a defense policy, supported by public debate, which more realistically and closely links Swedish defense and security to the security of Western Europe. This is not to say that Sweden should work toward eventual NATO membership. It simply states that

the reality of the situation which Sweden faces is such that Gustafsson's statement about "knowing where we belong" is not strong enough. Sweden remains non-aligned in peace-time, but the cherished neutrality in time of war cannot be guaranteed without the strong presence of NATO to ensure that the Swedish armed forces can carry out their assigned missions. That, more than any other factor, is the reality which Sweden must face. And for that reason she must look forward to remaining the silent partner in NATO.

APPENDIX A

BRIEFING IN STOCKHOLM ON THE NEW DEFENCE BILL, MARCH 11TH 1977

(By Under-Secretary of State for Defence, Gunnar Nordbeck)

1. Introduction

Yesterday the Government Bill on Total Defence for the coming five-year period was presented to the Riksdag. The Bill presents proposals concerning the implementation of our security policy and the continued development of total defence on the longer range. The Bill also gives the envisaged orientation of the so-called programme plans for the period 1977/78-1981/82.

The Bill is mainly based on the proposals advanced in two successive reports by the 1974 Parliamentary Committee on Defence. Up to a couple of months ago this committee has been evaluating the findings of a four year, extensive analysis of the defence organization.

This is an important Bill because, for one thing, all parts of our total defence--military, civil, economic and other branches of defence--are for the first time dealt with in the same Bill.

This new approach is emphasized by the fact that the Prime Minister lays down the basic principles of Swedish security policy and total defence in the main text. In eight annexes to the main Bill the ministers responsible for different parts of total defence present their proposals within their respective areas of competence.

2. Security Policy

In order to characterize the substance of the Bill it should first be noted that the Prime Minister lays down the continuity of Sweden's national security policy and the role of national defence. He points to the overwhelming support the basic principles of our security policy have in Swedish public opinion.

There has in fact for a long time been a broad consensus in Sweden on the orientation of our security policy and the need for a strong defence commanding respect. One consequence of this, says the Prime Minister, has been agreement on annual allocations of a considerable proportion of national resources for defence purposes.

The Prime Minister expresses the general objective of our security policy in the following way.

Sweden's security policy, like that of other countries, aims to preserve the nation's independence. The goals of our security policy should therefore be to assure the nation's freedom of action in all situations by means we ourselves choose, so that within our boarders (sic) we can preserve and develop our society in accordance with our own values in political, economic, social, cultural and all other respects, and at the same time work in the world for international detente and peaceful development.

This is still our goal, the Prime Minister declares.

He recalls that the Swedish policy of non-participation in alliances in peace-time aimed at neutrality in the event of war is not internationally guaranteed or established by treaty. Sweden has itself chosen and formulated its security policy. The credibility of this policy is therefore not dependent on international guarantees. It rests primarily on the foreign policy and defence policy we pursue in peacetime.

An essential precondition of neutrality policy is that the rest of the world has confidence in our will and respects our ability to firmly pursue the policy we have chosen.

Sweden will also in the future make every effort to strengthen the United Nations in the work of the organization to prevent and settle international conflicts. But the ability of small states to influence international developments is limited. In the implementation of our security policy we must, therefore, the Prime Minister says, constantly assess development trends in the world around us and take into consideration what risks these may involve for our security.

In spite of the determination of the super-powers and the military blocs to maintain political detente--efforts which are partly founded on the determination to avoid any development which might lead to nuclear war--it is a fact that both military blocs maintain large forces in Europe. Swedish neutrality policy must therefore continue to be supported by a strong, all-round total defence in order to retain its crediblity. Against this background, Mr. Falldin concludes, there is no contradiction between Sweden's deep involvement in international work for peace and disarmament and our efforts to give Swedish neutrality policy the support of an all-round total defence.

It is considered that the balance of power between the great powers will persist in the foreseeable future. Since the forces of the great powers are primarily tied up with each other, even a small country like Sweden is able to build up and maintain a defence which adequately supports its security policy. Also in the future, our total defence should have such a strength, structure and preparedness that in a situation of crisis and conflict in Europe no potential aggressor can regard threats, pressures or attacks on Sweden worthwhile.

A military attack has to be considered as the gravest threat to our security in view of its consequences. The deterrent effect of our total defence therefore still rests primarily on the strength of military defence.

Total defence also plays an essential role in peacetime, Mr. Falldin stresses. A substantial weakening of the strength of Swedish defence as compared to that of other countries can upset stability and balance in northern Europe. A firm and consistent Swedish foreign and defence policy promotes peace and stability in northern Europe. The pursuit of this policy must also be in the interests of other countries.

3. The Concept and Orientation of Swedish Total Defence

Our total defence is an expression of our determination to safe-guard the nation's security and independence. Total defence is, therefore, the concern of the entire population and is founded on the premise that every citizen contributes to the best of his ability to the defence of the country. This is why we have compulsory military service, civil defence duty and other types of compulsory service. The voluntary defence organizations and our popular movements also play an important role in strengthening the foothold of the total defence idea in our country.

The development of society in all industrialized countries leads to increased vulnerability to other kinds of threats and pressures. Added to this, future wars and crises may afflict the entire society and population to a greater extent and in other ways than before. Consequently, total defence must be seen as an integral part of society and reasonable account of the needs of total defence must be taken in the future development of society. A development along these lines will reduce our vulnerability and increase our security.

With this broad conception of total defence, it is only natural that we, as far as possible, coordinate military and civilian functions. To this end, civilian authorities responsible for certain functions in peace-time retain this competence in a situation of crisis or war. Coordination of this kind will give the principle of total defence an even firmer foothold in our society.

As pointed out before military attack is still considered to be the gravest threat to our national security in view of the consequences. Military defence dominates both the total defence budget and the defence planning efforts and it will do so also in the future. But modern societies are also vulnerable to disturbances of foreign trade and physical damage, and increasingly so. Therefore, security and defence policy include many other contingencies than war or threat of war in Europe. As part of this preparedness more emphasis is also put on the interdependence between different parts of total defence.

If we were to be attacked we should strive as long as possible to prevent the aggressor from gaining a foothold on Swedish territory. This means that, taking advantage of our geographical conditions, defence should operate mainly at the frontiers and coasts. If the aggressor should succeed in penetrating deeply in Swedish territory we must be able to offer efficient organized resistance in all parts of the country.

A conflict in Europe may be preceded by a period of mounting tension, local crises and disturbances in world trade. In the event of war, our foreign trade may be disrupted either partly or completely. We must therefore maintain such stocks and production capacity within the country so that we can subsist in such circumstances.

By maintaining an efficient intelligence service and an efficient decision-making machinery as well as a rapid

mobilization organization, it should be possible to take advantage of early warnings before a military attack.

Total defence should also comprise measures aimed at diminishing the consequences of so-called peace-time crises.

Because of the necessities of war all other branches of total defence must be adapted to how the military defence is intended to functions.

The primary role of civil defence will still be to assist the population and protect it from the consequences of warfare, with special emphasis on the effects of conventional weapons. Protection against ABC weapons should be organized within reasonable cost limits where this is possible. The extensive production of shelters for the population will, as before, be concentrated to those population centers which would be particularly exposed to military operations. The local authorities are responsible for plans for building shelters and within a few years the whole program will be financed via the national budget.

As regards economic defence, the preparedness to supply raw materials, semi-manufactures and finished products to the community during national emergency situations will be substantially improved. This means both increased stock-piling and further administrative preparations. In accordance with the International Emergency Programme crude oil stock-piling is being increased.

As regards other parts of total defence, preparations for psychological defence and medical care in war-time will be improved.

The Defence Committee has studied and considered the possible role which non-military resistance, often called civil resistance, could be given within the framework of our security policy. It has concluded, however, that other countries are likely to interpret a deliberate Swedish

choice not to prepare an armed defence as a lack of will and purpose to assert the independence of the country. Our declared foreign policy would not then be credible. The Minister of Defence shares the opinion of the Committee and concludes also that civil resistance can consequently not be a substitute for military defence.

The diagram below shows the proposed budget allocations for the fiscal year 1977/78 by each component of total defence.

In the Bill substantial reinforcements are suggested for the non-military parts of defence.

Total defence costs 1977/78 (Price level February 1976)

	Million Swedish Crowns	Change from previous year, %
Military defence	10,386	5,3
Civil defence	230	24,3
Economic defence	1,170	87,2
Miscellaneous	219	3,7
Total	12,005	

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4. Military Defence

Ever since the Second World War Sweden has sought to maintain a strong military defence, both in quantity and in quality. But in this respect, development during the last two decades has brought difficult problems in its train. These are not only the problems of rapidly increasing personnel costs and other consumption outlays but also the upsurging costs of modern weapon systems. In all industrial nations, Sweden included, the difficulty of attaining a suitable balance in the defence budget between consumption

and investments becomes a growingly urgent task for the defence planners and politicians responsible.

During the period 1969-1975, for instance, the shares of personnel costs in Sweden's military budget rose 3 percent, while at the same time personnel was reduced by 4 percent. Rising personnel costs cut down the resources available for the procurement of weapon systems.

When the resources for military defence are at a given level, a nation cannot solve this problem by merely stressing either the need for quantity or for quality. Further, due to the inertness of any military defence organization, imbalance between consumption and investments cannot be adjusted within a short period of time.

This was the real problem the Government had to face when preparing this Bill. We must gradually adapt our military defence to changing conditions within the limits of our defence posture.

The main feature of this posture is its defensive character. The need for a considerable number of field units must also in the future be met by the conscription system. It will give us a war-time organization of 700,000 men when completely mobilized. The current experiment with a shortened period of basic military service and the modified military refresher training of those conscripts who are selected as officers is also necessary. Efficient and realistic training must prepare both officers and conscripts for meeting the demands which can be made of them in event of war. At the same time improvements in social benefits for conscripts must continue.

Our military defence must be able to operate over large areas of the country. It should be possible to concentrate forces to the coasts and frontiers in order to make the best use of geographical advantages. The fact that our country is mainly surrounded by water ought to be exploited in order

to inflict losses on an aggressor during the most vulnerable phase of an invasion. Parts of the defence forces must be so strategically mobile that they can be brought up in concentrations on the various possible invasion routes and go into action there at short notice. Stubborn resistance over the whole country must be possible in the event of an aggressor succeeding in penetrating deeply into the country. Even in the latter case, our military operations should continue also at sea and in the air.

Such a defence posture can only be assured in the long run by continuous adaptation and by the establishment of a realistic balance between consumption and investments. In the Bill the Government has chosen the following means to this end:

1. An increase in budget appropriations to military defence by 400 million crowns a year during the next five-year period.
2. Exploiting our advanced knowledge and our experience in research and development of qualified weapon systems in order to create systems suited to our specific defensive posture.
3. Establishing mixes with high- and low-performance weapon systems in order to achieve a better overall effective utilization of the resources allocated to military defence.
4. Economies by decreasing some consumption outlays.

On the one hand, the additional 400 million crowns a year must be spent on urgent consumption outlays. The increase in allocations will, therefore, not directly benefit equipment procurement. On the other hand, budget allocations to the important equipment procurement sector might have decreased further if these additional resources had not been proposed. Without this increased budgetary pledge the funds necessary for consumption would be

transferred from the weapon sector with a consequent accelerated imbalance between consumption and investments.

The possibility of replacing at least some part of expensive weapon systems with cheaper ones within the framework of our defence posture has been strongly emphasized during the last decade. In the Bill the Government attaches great importance to the fact that modern technology can be used for producing light missiles and other weapons of extremely high effectiveness at reasonable costs. Therefore it is very important for us to have a capability of our own for developing different types of missiles and other guided weapons with high accuracy. For that purpose the close coordination of missile development between the industries involved seems necessary.

Our Army brigades are essential components in our defence posture. The intention is that they should be up to international quality standards. The problem to be solved is how to find the best possible mix of brigades designed for different assignments. The Government proposes the following mix over the next five years as a basis for future improvements. More than ten of our present twenty infantry brigades will, as in the past, be continuously modernized with special emphasis on fire-power and mobility. Anti-tank and anti-aircraft weapons are given high priority. The other infantry brigades will keep their present organization. The four Norrland brigades will be retained and modernized. The armored units should include four armored brigades, existing tank and armored battalions and tank companies.

As suggested already anti-tank weapons will have a very important function in the future. Therefore high performance anti-tank weapons ought to be available in all field combat units. A new light anti-tank missile based on modern technology will be developed for that purpose.

An issue which demands specific attention by the Government concerns the future design of the Air Force. This problem must be considered over a very long period of time.

The re-equipment of the Air Force ground attack squadrons with the AJ 37 Viggen will soon be completed. The war-time organization will comprise 5 1/2 squadrons. It will also include 5 squadrons of the light trainer SK 60 equipped to perform close support tasks. In the late 1980's it is intended to start replacing both aircraft.

The future of the Air Force ground attack units is a rather difficult question. The intercepter aircraft JA 37 Viggen should be developed into a ground attack version, called A20. It will also have some surveillance capability. Thorough analysis carried out by the Defence Staff has indicated that the A20 should be completed with a new close support aircraft called B3LA, which will have a secondary role as a trainer. A mix with a new light trainer with a somewhat limited close support capability is also of interest.

The mix of A20 and B3LA aircraft would essentially contribute to the effectiveness of our defensive defence posture. B3LA is adapted to specific Swedish requirements. It is intended to be developed and produced by Swedish industries. If not, the Swedish capability to develop qualified military aircraft should be reduced step by step. Such a capability has for a long time ensured us the continuous support of military aircraft adapted to our needs and conditions without acquiring them abroad.

Further studies are however necessary as a basis for a final decision on the future composition of the ground attack system. Such a decision is intended to be made in the autumn this year. These studies are delegated to a governmental committee. Its main task is to analyze (sic)

how the costs for the B3LA could be limited and how the stability of the cost estimates could be ensured. This reguires more exact specifications for the aircraft. When making the final decision the government must also pay regard to the state finances and national economy. It is therefore still an open question whether the B3LA will be acquired or not.

The intercepter JA 37 Viggen will be produced for our air defence during coming years for at least 8 squadrons. Decisions concerning research and development of a successor need not to be made in the near future. Tentative analyses of the future air defence system have begun and must concentrate on finding a suitable balance between intercepters, air defence missiles, surveillance, and operational control.

The acquisition of an intercepter for the 1990's can be provided by Swedish development and production, by production under licence (sic) of an aircraft designed abroad, or by importing finished aircraft from other countries. These possibilities are affected by the decision on B3LA.

For a long time our Navy has been undergoing re-equipment with light surface units. These units should be armed with surface-to-surface missiles which will considerably increase the effectiveness of our surface fleet.

The already commenced procurement of the third minelayer should be completed. Considering the great importance of mine warfare within our defence posture the supply of naval mines is essential. In order to meet requirements as regards the quality of mine-sweeping capability, minehunters should be procured.

Submarine units will also be essential in the future for attacking invasion forces at sea. The capability to develop and procure submarines within Sweden will be maintained.

Conditions should also be created for the qualified surface units to operate in flotilla formation. Heavy

mobile coastal artillery should be developed and procured. Some of the older coastal artillery units should be modernized.

The fourth of the Government's means to achieve balance between consumption and investments was economies obtained by decreasing some consumption outlays.

Many of the possible measures yield results on the longer range only. Moreover, in the short run they may involve costly investments. But they have to be accepted in order to achieve a proper balance in the future.

This fact is very obvious in the ongoing reduction and rationalization of our regiment administrations which primarily are peace-time installations for training of conscripts. According to the Defence Committee, reductions should, in addition to those already decided on, apply to three or four regiment administrations of the Army and the Navy together with a reduction of some administrative units. The development of the Air Force may mean that other peace-time stations, in addition to F11 in Nykoping and F12 in Kalmar, will have to be closed down. A governmental committee will this summer be presenting proposals concerning reductions of regiment administrations. In this context I want to point out that there is no direct relationship between the number of regiment administrations and the number of war units which can be mobilized. Consequently a reduction of regiment administrations does not entail a reduction of the number of war units.

Prompt and vigorous measures are necessary to reduce the number of employees. A reduction of 2500 people is planned for the period 1977-82.

Costs and personnel requirements for command staffs and central authorities should be reduced and personnel should be re-deployed for the benefit of training conscripts and military units.

The Swedish security policy will remain unchanged. We share the problems of rapidly increasing costs with most other industrial countries. This means that in spite of increased funding, the number of the most qualified units will continue to decrease. In the longer run, we try to compensate this trend by unsing modern technology for developing cheaper but highly effective weapons. These and the entire defence system have to be adapted to our defensive defence posture and the international development. Therefore our defence will still more be characterized as a high-low mix. We face the future with optimism. The aim of our efforts is still a strong national defence which firmly supports our policy of neutrality and contributes to peace and stability in northern Europe.

APPENDIX B

STATEMENT BY THE PRIME MINISTER

{Mr. Thorbjorn Falldin on Swedish Security Policy and Total Defence (Bill on the orientation of security policy and the future development of total defence)}, March 11th, 1977.

Swedish society is distinguished by a deep and fundamental community of values. This is maintained and strengthened by the implementation of those economic and social conditions which are in accordance with the wishes and efforts of the Swedish people. The internal stability, which such a development in all areas of society creates, will remain an essential precondition for the ability of the government to pursue a firm policy in peace as well as in war-time.

There is overwhelming support in Swedish public opinion for the basic principles of our security policy. These principles retain their validity even in a world where both foreign policy and defence policy has to be formulated with due regard to changing conditions, such as increased international independence and the increasing vulnerability of industrial societies.

Ever since the 1968 Riksdag decision, the general objective of our security policy has been expressed in the following way.

Sweden's security policy, like that of other countries, aims to preserve the nation's independence. The goals of our security policy should therefore be to assure the nation's freedom of action in all situations by means we

ourselves choose, so that within our borders we can preserve and develop our society in accordance with our own values in political, economic, social, cultural and all other respects and at the same time work in the world for international detente and peaceful development.

This is still our goal. To this end, our security policy is founded upon an interaction between foreign policy, defence policy, our policy on international disarmament issues, trade policy and international development cooperation policy.

Countries choose various paths for attaining their security policy goals. The choice is greatly determined by historical experience and geographical position. A uniquely long period of peace has made and still makes its mark on Sweden's choice. During this period we developed our policy of non-participation in alliances in peace-time aimed at neutrality in the event of war. The fact that Sweden has been able to keep out of war for a long time is one reason why this policy is so deeply rooted in the will of the Swedish people.

The possibilities for our country to stay out of war and serious conflicts also in the future, while maintaining our freedom and independence, is best furthered by our policy of neutrality. It also strengthens our ability to contribute to efforts in various contexts for promoting a better and more peaceful world.

The Swedish policy of neutrality is not internationally guaranteed or established by treaty. Sweden has itself chosen and formulated its security policy. The credibility of this policy is therefore not dependent on international guarantees. It rests primarily on the foreign policy and defence policy we pursue in peace-time.

An essential precondition of neutrality policy is that the rest of the world has confidence in our will and

respects our ability firmly to pursue the policy we have chosen. If our intention is to be clearly understood and respected, our policy cannot be made dependent on transient factors, but must be pursued with consistency and steadfastness.

Such international ties--political, economic, and others--which make an illusion of our ability to remain neutral in war-time are unacceptable. This means that we cannot take part in binding cooperation within a group of states for the purpose of drawing up common standpoints on foreign policy. There are also limits to our ability to cooperate in any transfer of the right of decision from national to international bodies. A close and extensive economic cooperation between Sweden and other nations is desirable from many points of view. In my opinion, this cooperation should be further deepened. But in the implementation of our security policy we must also observe the risks involved in the type of dependence that can be exploited to demand political and military concessions of us.

We wish to contribute to and work for greater respect for every nations' freedom and right of self-determination. We also work for social and economic justice, political detente, military disarmament as well as extensive and trustful cooperation between rations. Lasting peace in the world can only be secured if these endeavors are kept at full strength. Every step towards increased international security also promotes the attainment of our own security policy goals.

There has long been strong support in Sweden for the idea of an international system for the maintenance of peace and law. The United Nations is a manifestation of the efforts to achieve collective security on the long term through a voluntarily established international system.

Sweden will also in the future make every effort to strengthen the United Nations in the work of organization to prevent and settle international conflicts.

The ability of small states to influence international development is limited. International affairs will, in all probability, continue to bear the stamp of actions taken by the great powers. In the implementation of our security policy we must, therefore, constantly assess development trends in the world around us and take into consideration what risks these may involve for our security. Relations between the super-powers and the military blocs are characterized by efforts to maintain political detente. These efforts are partly founded on the determination to avoid any development which may lead to nuclear war. At the same time, it is envisaged that political disagreements between the superpowers will persist in the foreseeable future. Both military blocs maintain large forces in Europe and a force posture of high military preparedness. In all probability this high armament level will persist in the foreseeable future. Swedish neutrality policy must therefore continue to be supported by a strong, all-round total defence in order to retain its credibility.

Coherent international endeavors are necessary if lasting peace is to be achieved in the world. It cannot be realized by national measures alone. Consequently, there is not contradiction between Sweden's deep involvement in international work for peace and disarmament and our efforts to give the Swedish policy of non-participation in alliances the support of an all-round total defence. One fundamental precondition for Sweden's various endeavors to contribute towards a better world is, of course, the preservation of its independence.

It is considered that the balance of power between the great powers will persist in the foreseeable future.

Consequently, in situations of international crisis, the forces of the great powers will primarily be tied up with each other. An attack on Sweden or parts of Swedish territory in such situations is not considered to be of primary interest to a great power. Should such an attack nevertheless be contemplated, the forces the aggressor can deploy against us would be limited because the greater part of his resources would have to be deployed against his prime antagonist. Therefore, even a small country like Sweden is able to build up and maintain a defence which adequately supports its security policy. Also in the future, our total defence should have such strength, structure and preparedness that in a situation of crisis and conflict in Europe no potential aggressor can regard threats, pressures or attacks on Sweden as worthwhile. Then our total defence fulfills its intended deterrent function.

The deterrent capability of our defence cannot, however, only be judged on the basis of estimates of the strength of those forces which could be brought to bear upon us. A state contemplating such an attack must also be convinced of our will and ability to offer stubborn resistance in all parts of the country. We must therefore inculcate respect for our ability to lead, train, and equip our total defence so that the possibilities of carrying through a successful attack on our country appear uncertain. Our total defence must be structured in such a way and be of such strength that no deficiencies can give rise to doubts as to our resolution of purpose. Military defence must, moreover, be designed so that its defensive purpose is quite clear. Then it will be impossible for anyone to interpret it as a threat. Preparations for, and considerations of, military cooperation with other states are quite out of the question.

Procurements of essential military equipment must not place Sweden in a position where its dependence on other

countries is of such a nature that it can be exploited for putting pressure on this country.

The combination of a firm, credible foreign policy and a strong total defence should command the respect of the great powers for Sweden's will to remain neutral and for its ability to resist pressures or other aggressive actions. It must be made clear to everyone that we are intent upon defending our policy of neutrality if need bee. It is against this background that we maintain with steadfast purpose a total defence which no one can disregard in such a situation of crisis or war. Our long-range defence decisions are an extension of this steadfastness of purpose.

Our total defence plays an essential role also in peacetime. In recent decades, developments in Northern Europe have been characterized by stability and cooperation. Sweden's foreign policy and defence policy have made a great contribution to the stability of the security situation prevailing in the Nordic area. Denmark and Norway are members of NATO. Finland combines its policy of neutrality with a special relationship to the Soviet Union. To both military blocs the Nordic countries constitute a flank area where any changes of positions can have an impact on the situation of balance now prevailing in Europe as a whole.

A substantial weakening of the strength of Swedish defence as compared to that of other countries can upset stability and balance in northern Europe. A firm and consistent Swedish foreign and defence policy promotes peace and stability in northern Europe. The pursuit of this policy must also be in the interests of other countries.

A military attack has to be considered as the gravest threat to our security in view of the consequences. Defence against invasion must, therefore, be the primary task of our total defence. Its deterrent capability consequently still rests primarily on the strength of military defence.

The development of society in all industrialized countries leads, however, to increased vulnerability to other kinds of threats and pressures. Added to this, future wars and crises may afflict the entire society and population to a greater extent and in other ways than before. Consequently, total defence must be seen as an integral part of society and reasonable account of the needs of total defence must be taken in the future development of society. A development along these lines will reduce our vulnerability and increase our security.

Our total defence is an expression of our determination to safeguard the nation's security and independence. Total defence is, therefore, the concern of the entire population and is founded on the premise that every citizen contributes to the best of his ability to the defence of the country. This is why we have compulsory military service, civil defence duty and other types of compulsory service. The voluntary defence organizations and our popular movements also play an important role in strengthening the foothold of the total defence idea in our country.

With this broad conception of total defence, it is only natural that we, as far as possible, coordinate military and civilian functions. To this end, civilian authorities responsible for certain functions in peace-time retain this competence in a situation of crisis or war. Coordination of this kind will give the principle of total defence an even firmer foothold in our society.

For a long time there has been broad consensus in Sweden on the orientation of our security policy and the need for a strong defence commanding respect. One consequence of this has been agreement on annual allocations of a considerable proportion of national resources for defence purposes. I attach the greatest importance to the broad popular support of our security policy.

APPENDIX C

STATEMENT BY THE MINISTER OF DEFENCE

(Mr. Erik Kronmark, in the new Defence Bill, 1977)

The United States and the Soviet Union will in all probability continue in the foreseeable future to be the only states which as regards global interests, nuclear and conventional military capacity and economic strength have the characteristics of super-powers. Other states or groups of states may certainly become much stronger than they are now, but as far as can be judged will not become comparable with the super-powers, in any case not as regards military strength.

Relations between the super-powers are marked not only by movements towards detente but also by more or less latent conflicts of interests. Not infrequently discussions of detente policy have lacked clarity. This is partly due to the fact that a distinction is not always made between the outcome of detente policy so far and what its consequences can be on the longer terms.

Some of the factors underlying the policy of detente are: the increasingly conspicuous strategic balance between the United States and the Soviet Union; the growing realization since the Cuba crisis of the risks of war; and the desire to check rising military expenditures. The result has been a new psychological climate in relations between the super-powers. It has made it possible to deal with some very delicate international problems. These include the relationship of the Federal Republic of Germany to the

Soviet Union, Poland and other East European states, the status of Berlin and relations between the two German states. These developments were necessary conditions for the convening of the Conference on Security and Cooperation in Europe. The Conference laid the foundation for continued efforts to extend cooperation in Europe. The next step is the follow-up meeting in Belgrade in 1977.

The improved negotiations climate has also made it possible to commence extensive talks on arms limitations: the US-Soviet talks on the limitation of strategic weapons systems (SALT) and negotiations between NATO and the Warsaw Pact (WP) on mutual force reductions in Central Europe (M/B/FR). Another outcome of the policy of detente is the extensive international exchange of visits and a greater degree of moderation in propaganda.

But detente efforts do not mean that the ideological debate has come to a standstill nor that any development towards greater similarity between social systems is discernible.

It is difficult to judge what results detente policy can produce in the future. It is obvious, however, that one precondition for continued detente is that the balance of power is such that neither need have a sense of marked military inferiority. This means that a development towards one-sided impairment of strength is undesirable. Sweden's security would not be served by imbalance between the two great power blocs in our part of the world. Agreement on arms control and mutual force reductions in our continent would further disarmament efforts. Work in this field so far, however, has illustrated that the road to decisive progress is a long one. Therefore, continued vigorous efforts are still necessary.

When it comes to strategic weapons a certain balance has been achieved between the total nuclear weapon arsenals of

the two super-powers after a long period of American superiority. This balance has created the necessary conditions for the talks on the limitation of strategic weapons which began in the autumn of 1969 and which have since continued in several rounds. One motivating factor behind the talks is the upsurge in costs of the increasingly complicated weapon systems.

Within the framework of SALT, certain accords and agreements were concluded in Moscow in 1972 and Vladivostock in 1974. As a result the US and the Soviet Union will, on the one hand, each have only one defensive system against strategic missiles, and on the other, freeze the number of weapon carriers for these strategic missiles. The provisional treaty which was concluded in 1972 will under an agreement of autumn 1974 be converted into a ten-year treaty before the end of 1977.

Later SALT deliberations have proved to be more difficult than was foreseen in the autumn of 1974. This has been due to both political and technical factors. It is quite possible that talks are now entering a more active phase since the new President of the United States took office. But it is still difficult to forecast if and when a SALT II agreement can be concluded and if it will mean a substantial quantitative or qualitative limitation of the development of strategic weapon systems.

As regards conventional forces, it is a fact that both the great-power blocs still keep large forces in a state of military preparedness in Europe. Units and weapons systems are being constantly modernized. There is no reason to assume that the ongoing negotiations in Vienna will give quick results in the form of extensive force reductions.

The risk of political repercussions will probably increase if negotiations of this kind do not produce results in due course. It is also obvious that these negotiations

will take time as they concern security problems of the utmost importance to the participating states. For our part, we have cautioned in various contexts against over-optimism in expecting speedy results from these negotiations which are of very complicated nature.

In my opinion, the political behavior of the super-powers reflects fundamental values which will remain unchanged even if there are short-term variations in international politics or the the strength of detente policy fluctuates at times.

The policy of detente does not mean that all causes of conflict have disappeared. Conflicting interests between the super-powers are expected to persist in the foreseeable future. On the other hand, it is probably that the fluctuations in internation politics may be less dramatic than during the years of the Cold War. The present climate of detente, regardless of whether it dates from the time after the Cuba crisis (the 1963 Nuclear Test Ban Treaty) or from the coming into power of the Brandt government in the Federal Republic of Germany in 1969, has lasted much longer and yielded much greater results than former periods of detente. This has not prevented the super-powers from being in open opposition at times in other parts of the world, e.g. in the Middle East and Angola.

It is, of course, difficult to foresee with any degree of certainty what consequences the policy of detente may have in our part of the world if it lasts for a long time. A number of possible developments could derive from the military presence and interests of the super-powers in Europe.

The policy of mutual understanding between the United States and the Soviet Union has sometimes led to difficulties and sometimes to conflicts of interests in the cooperation between the United States and Western Europe. One the

one hand, the United States wants to intensify its contacts and reduce the risk of confrontation with the Soviet Union. On the other hand, it also wants to preserve the unity of NATO--which was created as a defense against the Soviet Union. The attainment of both these objectives can cause difficulties. But recent developments have shown that these difficulties can be overcome. As far as NATO is concerned, great concerted efforts are being made to rationalize forces in Europe and constantly improve their equipment.

Strong demands have at times been raised in the US Congress for the repatriation of troops. However, the Administration has declared that American military presence in Europe is in the interest of the nation's security and that no reductions should be made as long as negotiations with the Warsaw Pact on mutual force reductions are in progress in Vienna. A unilateral American withdrawal would not only have consequences for US relations with Europe but would also weaken the American position vis-a-vis the Soviet Union. Nor does it seem likely that such unilateral reductions will be made. Western Europe's interest in a continued American presence is apparently still just as great. Also of importance in this context, is that the Soviet Union, in the view of many, is in favor of a continued American presence in Europe in the foreseeable future.

An additional feature of this general picture is that the position taken by the NATO states on cooperation within the organization is not always clear-cut. On the one hand, there is apprehension that an understanding between the super-powers will encroach upon European interests in e.g. the M/B/FR and SALT negotiations. On the other hand, NATO states are aware that in the nuclear age there is no alternative to a policy of mutual understanding between the super-powers and that this understanding is a precondition for continued detente in Europe.

The Soviet Union's relations with its allies and with China involve or give rise to problems at times. The Soviet Union maintains a strong military defense on the frontier to Western Europe against NATO and in Asia against China. It also seeks to preserve and strengthen relations with its allies. The Soviet Union has traditionally maintained large-scale armed forces. More than many other states, the Soviet Union appears to still strive--despite growing material costs--to keep its armed forces at a high quantitative and qualitative level. These efforts, which in the past few years have led among other things to the modernization of different weapon systems, are expected to continue also in the future.

The large scale expansion of naval forces in recent years shows that the objectives of Soviet security policy now also include global military presence enabling it to support foreign policy aims. In an area previously dominated by the Western alliance Soviet naval forces now counterbalance NATO.

Developments in recent years have shown that the prime issues in international affairs now relate to the Middle East and southern Africa. This does not mean, however, that conditions in Central Europe are no longer important. There is every reason to assume that the central parts of this continent will continue to play a very important role in world politics. But since several of the most important points at issue between East and West have been regulated, at the same time as international economic problems--e.g. supplies of oil and other raw materials--gain more and more in importance, the picture changes. As the crisis area has shifted southwards, the stability in states around the Mediterranean has been subjected to greater pressure than before.

Many states around the Mediterranean and the Persian Gulf seem to have less resistance to disturbances than have the industrial countries in Western Europe. This may mean that the detente between the super-powers will be increasingly put to the test in the Mediterranean region. But it may also mean that the super-powers, being aware of these risks, try to refine the instruments available for so-called crisis control. Consequently, increased sensitivity to disturbances may lead to greater vigilance in the face of the possible spreading of future conflicts.

I would point out that the countries in southern Africa, with abundant resources of raw materials, which are ruled by white minority regimes (South Africa, Rhodesia and Namibia) are attracting more and more attention. The serious antagonisms in this region may intensify. Direct or indirect involvement by the great powers is within the bounds of possibility in conflicts that may occur in the future. Should this happen, these conflicts could have far-reaching consequences. Although it is unlikely that they would spread to Europe, I am of the opinion that we should keep this complex of problems well in mind.

The strategic importance the super-powers attach to the Nordic area derives from their ambitions in power politics and from their mutual relations. Bearing in mind their joint interest in preventing any development that can lead to nuclear war, their strategic assessments are based on their views of how a hypothetical future conflict might develop, the military technical development and the possible economic significance of the area.

In a conflict situation it is assumed that the naval forces of the Soviet Union need to have free access to the Atlantic, primarily from the Murmansk area, but also from the Baltic, and that they also need to safeguard their own operational area. In such a situation, it is further

assumed that NATO would for it own defense find it equally necessary to prevent this free access. These are essential reasons why the Northern Calotte and surrounding areas, and the areas around the Baltic Straits, are of great strategic importance. Conflicting interests as regards these areas will probably persist also in the future even if the emphasis may shift to the Northern Calotte and the surrounding sea areas.

The military build-up on the Kola Peninsula in recent years has attracted attention also in Sweden. It is considered that this build-up of military strength is an important element in the Soviet Union's ambition to preserve the strategic balance between the super-powers. Regardless of the interpretation put on the build-up, it is obvious that it is part of the entire Northern Calotte complex, which contains opposing interests that may give rise to conflicts.

It is not considered that there are any economic or other resources in the Nordic countries of so essential importance to the super-powers that they could trigger off a conflict in the event of a serious crisis. On the other hand, both known and new natural assets and other resources can be of value to an aggressor.

The continued grave situation in most developing countries and the inadequacy of total development assistance have led to an intensified international debate on ways of remedying this serious problem. Demands for a new international economic order have grown stronger and stronger. However, the realization of a new economic order will be a long and arduous process. Unless changes are made, the present situation may have serious consequences on the long term. It can give rise to conflicts not only between the industrial and the developing countries but also between the developing countries themselves.

As regards the United Nations, the political obstacles to achieving collective security have meant that so far the main significance of the world organization has been in the setting up of norms, opinion-molding and general measures for preserving peace. One of the areas where Sweden has played a certain role is that of the UN peace-keeping operations where we have contributed specially trained military units and other personnel. Even if its importance in all these respects has been limited, it can nevertheless be asserted that the world without the United Nations would have probably been even less safe and less peaceful than it is today. But the possibility of creating the conditions necessary for achieving satisfactory security within the framework of an international organization and legal system, however, still seems remote. In the final analysis, therefore, every nation must be responsible for its own security.

The majority of member states have declared their determination to support the United Nations as a political instrument for the preservation of peace and the promotion of cooperation. There have been signs in recent years of a broadening of the United Nations' role, from the purely political sphere to a growing number of sectors where the rapid advances in technology, science and communications have created new opportunities but also new problems. These problems have one thing in common: a great measure of international cooperation will be required if they are to be mastered. The broadening of the United Nations' role can in the long term contribute to reducing tensions in the world.

So far, disarmament negotiations have mainly been concerned with ABC weapons. The danger of the proliferation of nuclear weapons has come increasingly into the forefront of negotiations in international fora. In my view, the risk of nuclear proliferation is one of the most serious international problems. Energetic efforts must be made also in the future to prevent such proliferation.

The super-powers have a special responsibility when it comes to preventing the proliferation of nuclear weapons. Their continued investments in building up their nuclear weapon arsenals helps to nourish the notion that stocks of nuclear weapons afford special prestige. All states have the right to demand that the super-powers fulfil the pledges they have given on effective measures to stop the arms race and commence disarmament in this field.

Of course, conventional weapons must also come into the picture if genuine disarmament is to be achieved. But there seems little likelihood of prompt and substantial progress in this field. Research and development of new types of weapons continue at a rapid pace. Of particular importance here are the so-called high-precision weapons.

The international situation is marked by many tensions which lead to continuing military efforts and build-ups even by the poor countries. The large-scale and growing export of arms to these countries has become even more pronounced in recent years.

It seems hardly likely that the efforts being made in the arms limitation and disarmament fields will yield conclusive results in the foreseeable future. Mistrust between states and internal conditions make negotiations on disarmament difficult, even if the majority are in agreement on the desirability of getting results in this field. Global limitation of nuclear weapons and biological and chemical warfare is within the bounds of possibility. Even limited progress as regards arms control can lead to a strengthening of the status of the United Nations and its ability to settle international disputes. Ever since the inauguration of the Disarmament Conference in Geneva in 1962, Sweden has played an incentive role in its work. It should be noted here that Sweden took an active part in the adoption of the decision whereby a Special Session of the UN

General Assembly entirely devoted to disarmament will be held in 1978.

The fact that the super-powers are alive to the possible consequences of a future ware means that, as far as we can judge, they will continue to make every effort to prevent any military confrontation between them, particularly in Europe. But the fact that huge military forces are facing one another in a constant state of preparedness entails risks in connection with local conflicts. The super-powers' global interests and rivalry for resources also mean that they may be drawn into non-European conflicts which can escalate locally or spread to Europe.

APPENDIX D

ADDRESS GIVEN BY THE PRIME MINISTER

(Mr. Thorbjorn Falldin, at a Conference of the Swedish People and Defence Federation in Storlien, 6 February 1978)

Ladies and Gentlemen,

Sweden's security policy is supported by an overwhelming majority of the Swedish people. To most people, the policy of neutrality is self-evident in view of our historical experience and traditions, our geographic and strategic position and our internal conditions. The contents of this policy--independence of military alliances, a strong military defence compared to the size of our country, independent standpoints in matters of foreign policy, the limits it imposes on our participation in international trade arrangements and so on--is hardly ever seriously called into question.

This in itself is a source of strength for our security policy. It helps us to convince the world of our intentions.

Popular support of this policy has, of course, grown out of the uniquely long period of peace enjoyed by Sweden. The policy of neutrality was successful during two world wars. In this we were greatly assisted by political and strategic circumstances beyond our control, but it is equally clear that our policy and our own capabilities were crucially important.

Of course, what I have now said does not preclude the question, every now and again, whether our traditional

security policy is unduly static and fails to make sufficient allowance for the rapid changes that are a characteristic of both national and international developments nowadays. The world around us today differs from that of previous decades, with new power constellations and new economic, technological and other outward conditions.

As I see it, however, although the developments which have occured are revolutionary in many ways, they have not altered the basic conditions that apply to our policy of neutrality. On the other hand it is clear that the forms, contents and manifestations of that neutrality must be continuously adapted to changes at home and abroad.

Sweden is a comparatively small country. Sweden has a democratic system of government. Besides the ideological and cultural traditions we have in common with the western world, there are also powerful economic links. At the same time we are at the crossroads between strategic interests of great importance to both super-powers. One of them is our neighbor with politically, economically and strategically important areas in our immediate proximity.

Faced with this situation it is natural for us to avoid coming under the influence of one super-power and, secondly, to avoid becoming an outpost of the other one. The policy of non-participation in alliances remains the best solution to our security problems and, I am convinced, will continue to be so in the foreseeable future.

The policy if non-participation in alliances gives us a chance of achieving two vital goals. One is to keep out of conflicts in our proximity, between the great powers. The other is to put ourselves in a special position to help establish a system of international detente. Our policy of non-participation is aimed at keeping Sweden out of international conflicts, but it is no less aimed at promoting a global development towards peace.

Our defense has an essential part to play in the fulfillment of this policy.

It is quite natural that Sweden's position should play a particularly important part in the maintenance of stability in the Nordic area. Our position prevents the power blocs in this area from confronting each other directly. To both blocs, the Nordic area is a flank where significant changes of position could affect the current equilibrium in Europa (sic).

A substantial weakening of Sweden's defense in relation to the surrounding world could disrupt this picture of stability and equilibrium in Northern Europe. It could cause added pressure from the superpowers, above all on our neighboring countries and, in a situation of conflict, to preparations by one bloc to prevent the other bloc from gaining control of the Nordic area. Firmness and consistency in our foreign policy and defense policy are therefore conducive to the peace and stability of Northern Europe, and it is also in the interests of other countries that this policy is maintained and pursued.

Non-participation in alliances also gives us special opportunities, through an active foreign policy in the disarmament sector, in questions of European security, in the United Nations and in questions of international development, to work for a peaceful international development which--in th ultimate analysis--is of advantage to our own independence. In recent years international efforts for disarmament--efforts in which, as you well know, Sweden since long ago takes a significant part--have been deepened and widened to include new problems and fields. This has given us cause for a further intensification of our efforts at the international level. I allude among other things to the question of a new international economic order which has arisen during the past few years and which also involves aspects of security policy.

While on this subject I would like to emphasize that there is no antithesis between our defense policy and our work for international disarmament. Both are a part of our security policy in its broad sense. Our efforts to promote disarmament are aimed at making the world safer for all countries and for ourselves too. At the same time we need a strong defense, in relation to our size and circumstances, in order to pursue that policy of non-participation in alliances, which not only promotes peace in our immediate vicinity but also facilitates our work for disarmament.

Our defense will continue to be needed for as long as the super-powers and the military blocs maintain large standing forces close to our country. As soon as the great powers begin a process of real disarmament, we will also be better able to reduce our military establishment. In fact, for a number of years now, we have been setting an example by making reductions in our military defense, which have had no counterpart whatever in the development of armaments around us.

I believe this view is quite widely endorsed by all sectors of political opinion in Sweden, although recently it has become increasingly common even for our reduced defense establishment to be referred to as a contradiction to our international efforts for peace.

Olof Palme once said: "A relatively strong Swedish defense and our international work for peace are two sides of the same policy. If in the present day situation we should choose to disarm unilaterally, we would generate concern and undermine the stability existing in Northern Europe. This would threaten the European detente which itself is a prerequisite for the work of disarmament." This still holds good.

The policy of neutrality is only strong if it is credible. Our neutrality in war and our non-participation in

alliances in peacetime are not internationally guaranteed or stipulated in a treaty. Sweden's neutral line has been of her own choosing. Consequently the credibility of this neutrality is founded, not on international guarantees but on the policy conducted by Sweden and by the defense measures which are already taken by us during peacetime. The rest of the world must be able to believe both our intention and in our ability to remain neutral in the event of war.

Our intention may seem beyond doubt, considering our pat record and the firm support for neutrality in this country. But we must count n suspicion around us. Apart from non-participation in alliances, the clearest evidence of our intention is our investment of considerable resources in the maintenance of a strong total defense system.

We also avoid other commitments which could make our neutrality in a future war appear illusory. We cannot participate in a binding cooperation within a group of states for the purpose of defining common standpoints in foreign policy. Limits are also imposed on our ability to participate in the transfer of decision-making powers from national to international bodies, as witness among other things the shaping of our commercial relations with the EC and other economic associations.

The confidence of the surrounding world in our ability to stay neutral in the event of war hinges above all on our military defense and on our ability to protect our population and secure our country's supply of necessary commodities.

One perennial and fundamental question is what types of conflicts and wars our defense should be prepared to meet and how strong our defense must be in order to give our security policy the necessary backing.

Our answer to this question has undergone modification in line with the developments of strategy and weapons technology that have taken place in the post-war world.

During the 1950's and early 1960's, the U.S. enjoyed a clear superiority in the field of nuclear weapons, and it was at this time that the doctrine of massive retaliation came into being. As nuclear arsenals were increased, particularly by the two super-powers, a nuclear attack seemed the likeliest method of assault, which, it was feared, could also be used against this country in certain situations. That was the time, too, when the question of acquiring a Swedish nuclear weapon was debated in our country.

Since then, however, the nuclear weapons system of the super-powers have developed greater precision and destructive potential and have at the same time become less vulnerable. A strategic balance has been created, also, numerically speaking. It means that neither super-power is capable today of delivering a massive attack on the other without exposing itself to a devastating retaliatory strike. This has necessitated prudence. The deterrence effect of the so-called balance of terror has reduced the probability of a nuclear conflict, though at the same time we are unable to define the implications of the new weapons which are being developed today. Massive retaliation has given way to a doctrine with a range of options to suit the requirements of the current situation. The demand for options has meant a renaissance for conventional forces.

It is against this background of increasing importance of conventional arms that Swedish strategy has been designed in the form of what the experts call the marginal strategy. This strategy is based on the assumption that our military defense will not have to meet an attack by the entire conventional forces of a super-power. We believe that Sweden is of limited strategic interest to those around us and that the question of attacking us can only arise in connection with a wider conflict. A belligerent might then

consider using Sweden as a transit route or for some other secondary purpose.

As long as Europe remains divided into two military blocs--which we believe it will throughout the foreseeable future--most of the forces of the two blocs will always be committed against each other, just as they are in Central Europe today. A super-power contemplating an attack on Sweden must therefore accept two limitations: it can only detail a minor portion of its military strength for this assignment and, secondly, it must be prepared for possible countermeasures by the other super-power.

This being so, even a small country like Sweden is capable of mounting a military defense that commands respect and can make an attack appear unprofitable.

Our existing defense has grown out of continuous inputs of economic resources and personnel over a long period of time. It has been designed to meet all the threatening situations which we believe could reasonably occur. This has been possible within the framework of the allocated resources, because we do not have the expense of maintaining standing units. Our system of conscription makes it possible to maintain a skeleton organization in peacetime and to mobilize quickly when the need arises. On the other hand, as tension in Europe has diminished during the seventies, we have been able to reduce our annual real defense input.

At the same time I would like to say that the strength of our defense on paper is one thing and that the assessment made of it by the rest of the world may be another. Because we have had so many years of peace, the efficacy of our defense has never been demonstrated. It is therefore important for us to deal smoothly and efficiently with incidents and border violations. It is also important that the strong determination of the Swedish people to defend themselves be

made known abroad. The membership of the voluntary defense organizations, which now stands at 700,000 and is growing, is an important factor in this connection. So too, is the positive interest taken in defense by our major popular movements, as witness, for example, the activities of the People and Defence Organization, which, I need hardly add, are a great asset.

Although the peace-keeping ability of our total defense still rests primarily on our military resources, post-war developments have increased the importance of other aspects, such as economic defense and civil defense. Social developments have made the industrialized countries more susceptible to other menaces and pressures besides those of a military nature. The oil crisis of 1973/74 is one such example. Terrorism is another. To this is added the fact that future wars and crises can hit entire communities and populations on a larger scale and in a different way than previously. We must continue to develop our society in such a way that the exigencies of total defense are reasonably met.

Economic preparedness is an essential ingredient of our total defense. OUr independence and our freedom of action rest on our ability to safeguard the country's supplies of essential commodities in blockade situations arising in connection with war or crises. Post-war developments have affected our preparedness in this regard.

Extensive international trade and international division of labor are necessary for the continuing prosperity of our country, and business enterprise has become increasingly internationalized. On the other hand our economic links and commitments must not become so strict as to make it impossible for us to keep out of a European conflict between East and West.

Our own views concerning the demands of our policy of neutrality precluded Swedish membership of the European Communities. Instead we concluded an agreement with the EC which conferred substantial free trade benefits without circumscribing our freedom of political action. We must therefore continue to reserve this freedom of action in future trade cooperation.

First and foremost our economic preparedness depends on the peacetime resources of our economy. We can prepare for the contingency of a blockade situation primarily by safeguarding a certain measure of output capacity in vital sectors of our economy, by stockpiling raw materials and input commodities, and by planning for the reorganization of our economy to an emergency footing.

Particularly severe problems have occured in the ready-made clothing and shoe-manufacturing industries, which have been the subject of a host of governmental measures. We cannot discount the possibility of more sectors or subsectors of industry getting into a similar situation and requiring assistance. This entails structural transformation costs which too often tend to be overlooked.

Seen in context of total defense, agriculture today presents less of a problem than it has done. The 1967 Resolution on agricultural policy was based on the assumption that agriculture would be a burden on the national economy and that its volume should be reduced. The requisite level was mainly determined by considerations of defense. By contrast, in the latest Resolution on agricultural policy, Government and Riksdag referred to agriculture as a valuable means of safeguarding our food supplies, securing regional employment--also an important defense consideration--and, last but not least, providing us with opportunities of relieving acute food shortages in other countries. Also, we have set a higher endurance target for

agriculture than for most other sectors. Our endurance in this sector will depend among other things on supplies of fuel and fertilizer.

Energy supply is the greatest problem. Whereas during the Second World War we were entirely self-sufficient, today we are dependent on imports--mostly of petroleum products--for seventy percent of our energy supply. There are both long-term and more short-term aspects to this problem.

Our long-term aim must be to reduce our dependence on imported non-renewable raw materials. In the short term we must alleviate the consequences of temporary disruptions of supplies due to conflicts elswewhere in the world--peacetime emergencies as they are called.

A rapid increase in our stockpiling of oil is one of the measures which are being taken to this end. In addition, our energy and fuel policy is being framed so as to make our supplies as dependable as possible. Allow me to remind you in this connection that the use of nuclear power will not increase Sweden's security in this respect as long as we are dependent on other countries--which in practice means the great powers--for the enrichment of our uranium.

Finally I would like to return to the subject of military defense and to say a few words about the conditions under which it has to operate.

There is a comprehensive process of technological development at work within the two power blocs as regards both nuclear and conventional weapons. This development is expected to continue. It has increased the precision and destructive capacity of armaments and has also entailed other qualitative changes.

Sweden's defense is also being continuously modernized, but at the same time we are faced with a daunting increase in costs. Personnel costs and the costs of material maintenance and advanced new equipment are rising faster than the

allocations which are judged possible. Despite efforts to limit peacetime operational costs, the scope for material procurement is steadily diminishing.

A large number of measures will be taken, in accordance with the 1977 Resolution on defense policy, to deal with these problems. The personnel strength of the central authorities and staffs will be cut by nearly 2000 by 1985. Army, Air Force and naval units are being disbanded in rapid succession, but not even these expedients will be sufficient in the long run.

More thorough changes to the military defense structure will now have to be considered in order to achieve a reasonable balance between duties and resources and between personnel and equipment. The instructions concerning perspective planning given recently to the Supreme Commander of the Swedish Armed Forces are to be viewed against this background. In those instructions the Supreme Commander has been called upon also to consider alternatives involving far-reaching structural changes. This will be the task of the new Defence Commission too. It will not be made any easier by the fact that it must be accomplished in a persistently austere general economic climate.

At the same time I would like to make clear that the conscription principle must continue to hold good in the future. The passing of the 1977 Resolution on defense policy was the latest of a succession of occasions when it has been emphasized that total defense must be organized in such a way as to be the concern of the entire Swedish people. Every citizen should be given the opportunity to contribute to the country's defense according to his ability. This will be best accomplished if the total defense system continues to be based on service in the form of conscription, compulsory civil defense service and so on. In reality we are already far along the road towards a form

of "total defense duty" for all citizens, both men and women. In my opinion this defense structure should be still more explicitly confirmed in the next Resolution on defense policy.

The question of our ability to develop and produce advanced defense equipment within this country is another major problem. A defense industry of our own has the advantage of making us less dependent on other countries and of inducing the rest of the world to trust that we are capable of using our equipment effectively. Also, the equipment can be better adapted to suit our particular defense problems.

Until now it has been possible for us to develop and manufacture most of the defense equipment we need within the country. Purchases from abroad have mainly been confined to advanced items which have only been procured in small numbers--anti-aircraft missile systems and radar installations, for instance. In cases where independent development would have been prohibitively expensive--such as aircraft engines and intercepter missiles--licenses have been purchased for manufacturing in Sweden.

Despite its short manufacturing runs, the Swedish defense industry has done well in competition with foreign suppliers, thanks to it high technical standards, to its adjustment to specific Swedish requirements and to the continuity of its development and production. Moreover, it has given us a valuable domestic cadre of technological expertise.

At the same time our defense industry is contending with mounting problems. For one thing, efforts to devise systems which can be kept up-to-date for longer periods have the effect of prolonging the intervals between development projects and making it more difficult to maintain a continuity of know-how. Economic considerations prompt shorter production runs, thus increasing unit costs and impairing

competitive strength vis-a-vis foreign industry. These are the problems facing us in the aircraft industry, and they will soon arise in other sectors as well.

The question is, what will cost us more in the long run: to maintain our own industry in the face of international competition which is likely to grow tougher, or to close down factories, write off development potential and expertise and concentrate on outside procurement. This is not only a question of vital importance to the national economy. It is also very closely bound up with our genuine ability to conduct an independent policy of neutrality in the event of a war in our surroundings.

These developments set the stage for a vigorous debate on defense during the next few years. A debate of this kind is welcome, for it is the best guarantee that people will penetrate the question and take an interest in it. But we must all play our part to ensure that the debate is founded on knowledge. As one means to this end, the Government will try to make information more readily available on the subject of defense. But, as I have already emphasized, the participation of organizations, popular movements and individual persons who are interested in defense matters will also be required in order to achieve an open, wide and knowledgeable debate on the subject of defense.

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